Workforce Training Results 2002

An Evaluation of Washington State's Workforce Development System

Washington State
Workforce Training and
Education Coordinating Board

Workforce Training and Education Coordinating Board

The Vision

The Workforce Training and Education Coordinating Board is Washington State's valued and trusted source of leadership for the workforce development system.

Mission Statement

The Workforce Training and Education Coordinating Board's mission is to bring business, labor, and the public sector together to shape strategies to best meet the state and local workforce and employer needs of Washington in order to create and sustain a high-skill, high-wage economy.

To fulfill this Mission, Board members, with the support of staff, work together to:

- Advise the Governor and Legislature on workforce development policy.
- Promote an integrated system of workforce development that responds to the lifelong learning needs of the current and future workforce.
- Advocate for the nonbaccalaureate training and education needs of workers and employers.
- Facilitate innovations in workforce development policy and practices.
- Ensure system quality and accountability by evaluating results and supporting high standards and continuous improvement.

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Ellen O'Brien Saunders
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March 2003

Dear Members of the State Legislature and Partners in the Workforce Development System:

Workforce training is paying off. Highlights from our fourth biennial evaluation of the state's workforce development system (see attached copy) show that:

- All workforce development programs are estimated to boost participants' lifetime earnings and public tax revenues by amounts exceeding program costs.
- Post-program employment rates among former program participants vary from 60 to 92 percent. They have remained stable during the past two years despite the recession.
- In programs serving adults, 68 to 92 percent of employed former participants reported they were working in jobs related to their training. Placement in training-related jobs increased during the past two years for four of the ten programs.
- Hourly wages and quarterly earnings of program participants increased significantly during the past two years for almost all programs.
- Over 85 percent of employers reported they were "somewhat" or "very satisfied" with the overall quality of work by former program participants.

We also note opportunities for improvement. In examining the ten workforce development programs that account for over 90 percent of public investment in this area, we continued to find that:

- The support services for program participants that most often need to be improved are information about job openings and career counseling.
- Women earn substantially less than men before entering their programs, and still earned substantially less than men after leaving them.

I believe you will find *Workforce Training Results 2002* valuable. This year's report also includes net impact and cost benefit results which indicate that these programs are effective investments.

Workforce Training Results 2002 is available on our website (www.wtb.wa.gov), and more copies can be obtained by contacting our office. To ensure that we are meeting your informational needs, I have included a customer satisfaction survey. Please let us know how we are doing. We will use the responses to continue to improve this report.

Sincerely,

Ellen O'Brien Saunders
Executive Director

Workforce Training Results 2002

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Executive Summary

Introduction

This is the fourth biennial outcome evaluation of Washington State's workforce development system. It analyzes the results of ten of the state's largest workforce programs. These programs account for over 90 percent of public expenditures in the workforce development system.

The purpose of this evaluation is to report the results of workforce development and to recommend areas for improvement. The report discusses program results in terms of the seven desired outcomes for the state workforce development system established by the Workforce Training and Education Coordinating Board (WTECB). These desired outcomes are not static targets but are conditions that should be increasingly true for all people.

The Programs

The programs included in this evaluation are grouped into three categories based on participant characteristics. Five programs serve adults, three serve adults with barriers to employment, and two serve youth.

Seven Desired Outcomes for the State Workforce Development System

Competencies: Washington's workforce possesses the skills and abilities required in the workplace.

Employment: Washington's workforce finds employment opportunities.

Earnings: Washington's workforce achieves a family-wage standard of living from earned income.

Productivity: Washington's workforce is productive.

Reduced Poverty: Washington's workforce lives above poverty.

Customer Satisfaction: Workforce development participants and their employers are satisfied with workforce development services and results.

Return on Investment: Workforce development programs provide returns that exceed program costs.

Programs for Adults

Community and Technical College Job Preparatory Training: Training and education for a Vocational Associate of Arts Degree or a Vocational Certificate. This training does not include retraining of unemployed workers and classes taken by current workers to upgrade skills for their current job, nor does it include the other two mission areas of the colleges—academic transfer education and basic skills instruction.

Private Career Schools: Training provided by private businesses for students intending to complete vocational certificates or degrees. The schools are licensed by the Workforce Training and Education Coordinating Board or, if they grant a degree, by the Higher Education Coordinating Board.

Apprenticeship: Training that combines classroom instruction with paid, on-the-job training under the supervision of a journey-level craft person or trade professional. Apprenticeships are governed by the Washington State Apprenticeship and Training Council and administered by the Department of Labor and Industries.

Worker Retraining at Community and Technical Colleges: Provides dislocated workers and the long-term unemployed with access to job retraining for a new career. About 5 percent of worker retraining participants receive their training at private career schools. This evaluation, however, is limited to the colleges.

Job Training Partnership Act (JTPA) Title III (Dislocated Workers)[1]: Federal employment and training program for dislocated workers. The program was administered by the Employment Security Department (ESD) at the state level and by 12 service delivery areas at the local level, each headed by a private industry council (PIC).

Programs Serving Adults With Barriers to Employment

Adult Basic Skills Education: Literacy and math instruction for adults who are at a high school level or below. Includes courses in four categories: Adult Basic Education for adults whose skills are at or below the eighth grade level; English-as-a-Second Language; GED Test Preparation; and High School Completion for adults who want to earn an adult high school diploma. Students receiving both basic skills instruction and job training are included in the evaluation of preparatory training or worker retraining, and not the evaluation of basic skills instruction. Basic skills instruction is provided by community and technical colleges and other organizations such as libraries and community-based organizations, although the evaluation is limited to the colleges.

Job Training Partnership Act Title II-A (Adults)[2]: Federal employment and training program for low-income adults who experience significant barriers to school or employment. The program was administered by ESD at the state level and by 12 service delivery areas at the local level, each headed by a PIC.

Division of Vocational Rehabilitation (DVR): DVR offers services to help eligible individuals with disabilities become employed. A series of customized services are offered such as assessment, counseling, vocational and other training services, physical and mental restoration services, assistive technology, mobility and transportation, communication services, and job search and placement. Eligibility requires that the individual have a physical, mental, or sensory impairment that constitutes or results in a substantial impediment to employment, and that they require DVR services to enter or retain employment.

Programs Serving Youth

Secondary Career and Technical Education: Training and vocational education in high schools and vocational skills centers in agriculture, business, marketing, family and consumer sciences, technology, trade and industry, and health occupations.

Job Training Partnership Act Title II-C (Youth)[3]: Federal employment and training program for low income youth 16 to 21 years old who experience significant barriers to school or employment. The program was administered by ESD at the state level and by 12 service delivery areas at the local level, each headed by a PIC.

We caution against making improper comparisons among these programs—the populations served, the types of services provided, and lengths of training vary substantially from program to program.

[1, 2, 3] On July 1, 2000, the Workforce Investment Act replaced JTPA. This report is based on JTPA programs in place during the period from July 1, 1999, to June 30, 2000.

Data

Findings are based on the following sources of data:

- Program records on over 71,400 individuals who left one of these programs during the 1999-2000 program year.[4]
- Mail survey responses from 1,615 firms that hired new employees who had recently completed one of the programs.[5]
- Telephone survey responses from approximately 7,400 participants who left one of these programs during 1999-2000.[6]
- Computer matches with the Washington State ESD employment records and those of four other states (Idaho, Montana, Alaska, and Oregon) and military personnel records. These matches provide valuable information on employment and earnings outcomes. The data are incomplete, however, and employment rates among participants are underestimated. Such ESD records do not contain information on self-employment, and employment in states outside the Pacific Northwest is not included in this analysis.
- Computer matches with enrollment data from community and technical colleges and all public four-year institutions in the state. These data underestimate postprogram enrollment rates; private four-year colleges and out-of-state schools are not included in the record matches.

Note that, except for secondary career and technical education, *the participant results presented in this report are for all participants, not just those who completed their program.* Participants are defined as individuals who entered a program and demonstrated the intent to complete a sequence of program activities. The number of participants who leave their program before completion affects program results.

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[4] These records include information on all or most participants leaving these programs, except for the case of private career schools. Data for this sector is incomplete; our analysis is based on reporting from 109 of the roughly 300 private career schools in the state. Note that coverage has, however, improved dramatically from two years ago; the evaluation of 1997-98 participants was based on a voluntary sample of 19 schools, including roughly 26 percent of students leaving programs during the 1997-98 school year.

[5] The survey did not include questions to assess employer satisfaction with Worker Retraining or DVR participants. Note that this is the first report to include evaluations of these two programs.

[6] The sample sizes for the phone survey vary by program. Samples are larger for programs that required a regional component to the analysis. As a result, the precision of reported statistics vary. For example, the 95 percent confidence interval for overall satisfaction with the program is plus/minus 1 percentage point for JTPA III and plus/minus 4 percentage points for Adult Basic Skills. Again, Worker Retraining participants were not included in this survey.

Summary of Findings

Participant Characteristics

The demographic characteristics of program participants are an important factor in determining program results. Programs serving participants who have significant work experience and basic skills can be expected to have higher labor market outcomes than those serving participants with little work experience, low levels of literacy, and other barriers to employment.

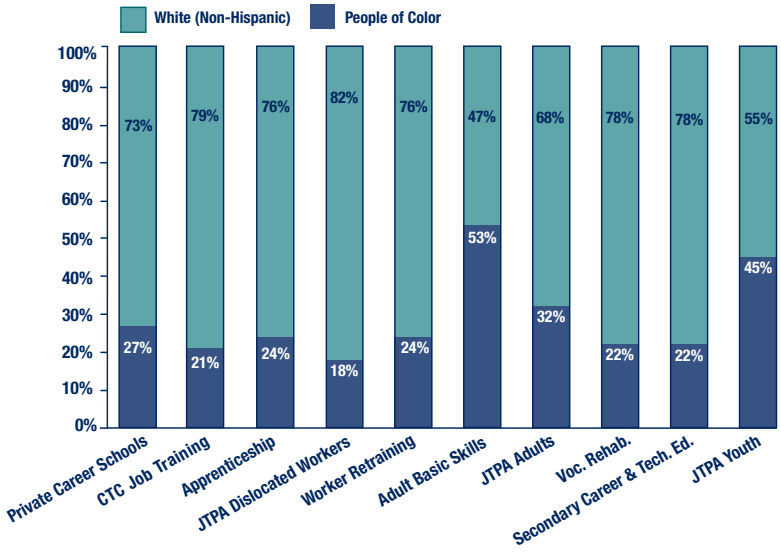
The preprogram wages of participants reflect the different characteristics of the three clusters of programs. Among those who were employed three quarters prior to entering a program, the median wage was lowest for JTPA Title II-C disadvantaged youth and DVR clients and highest for the two programs serving dislocated workers[7] (Figure 1).

Twenty-one percent of Washington residents, according to the 2000 Census, were people of color (i.e., non-white or Hispanic). The racial and ethnic composition of participants in six of the programs was more diverse than the state's general population (Figure 2). The compositions of the other four programs are roughly comparable to the general population in the state. Diversity was greatest in Adult Basic Skills Education and the JTPA programs serving disadvantaged adults and youth.

FIGURE 1.
Median Hourly Wages Six to Nine Months Before Program Participation*

** All wages are stated in first quarter 2001 dollars.*
*** CTC stands for Community and Technical Colleges.*

FIGURE 2.
Racial and Ethnic Composition of Program Participants



[7] Most secondary career and technical education students did not have reported employment prior to entering their program.

FIGURE 3.
Percentage of Participants Who Received Job-Specific Skills Training

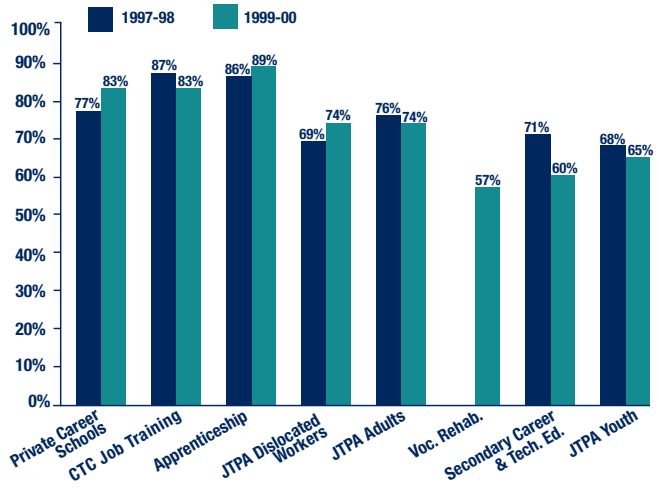
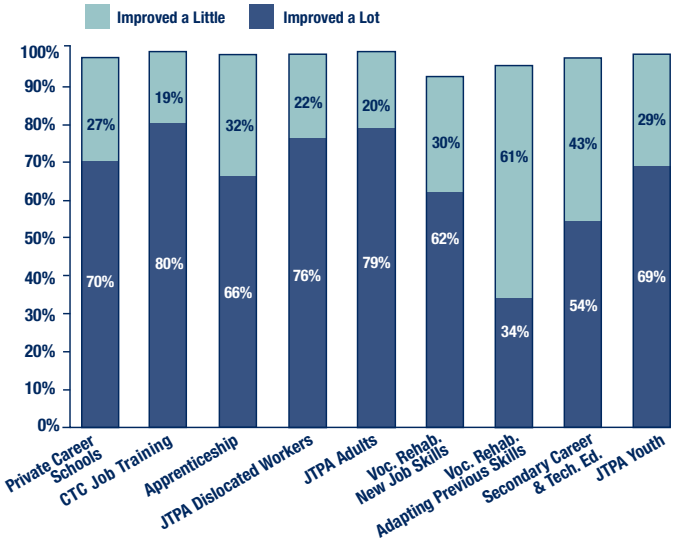


FIGURE 4.
Percentage of Participants Who Said Their Job-Specific Skills Improved a Little or a Lot *(among those receiving training)*



Participant Outcomes

Competency Gains

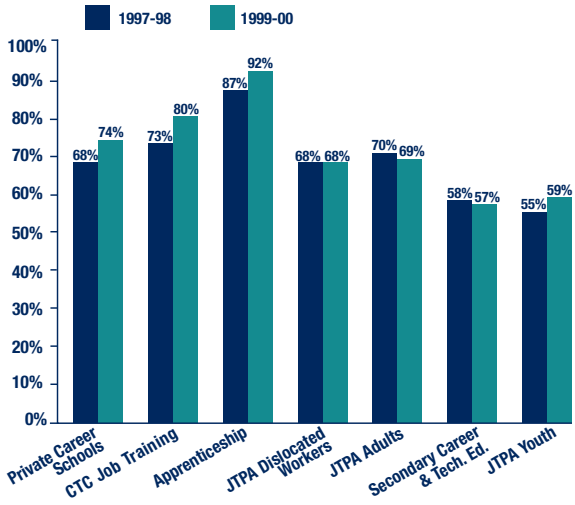
Desired Outcome: *Washington State's workforce possesses the skills and abilities required in the workplace.*

Based on survey results, most participants, but not all, received job-specific skills training as part of their program (Figure 3). Adult Basic Skills Education, by the definition used in the study, does not include vocational training and, therefore, is not included in the figure. Twenty-six percent of JTPA adult and dislocated worker participants reported that they did not receive job-specific skills training as part of their services. JTPA programs offer a variety of job search assistance and basic skills instruction in addition to job-specific skills training. Forty-three percent of DVR clients said they did not receive job-specific training (i.e., training in new job skills or training to adapt skills to a disability). Note that DVR offers other work-related services in addition to training; for example, some clients receive physical and mental restoration services, assistive technology, and communication services.

Among program participants who received job-specific skills training, almost all said their job-specific skills improved, and in most cases the participants said their skills improved a lot (Figure 4). Adults are more likely than youth to report substantial improvements in job-specific skills. Among adults, the relatively low percentage of apprentices who said their job-specific skills improved a lot might reflect the extensive skills already held by many before entering the program. The relatively low proportion of DVR clients reporting substantial improvement in adapting previous job skills to their disability reflects the often extreme difficulty encountered in doing so.

Another measure of whether training provided participants with the right skills is whether the former participants believed their training was related to their postprogram employment (Figure 5). In most cases, a large majority of program participants indicated their training was related to the job that they held nine months after leaving the program. The programs serving youth have relatively lower results for job-relatedness of training. The percentages of private career school students, community and technical college job preparatory students, and apprentices who said that their training was related to their jobs increased from levels reported two years ago.

FIGURE 5.
Training Related to Employment
Percentage of Employed Former Participants Who Said Training Was Related to Job Held Nine Months After Leaving Program



Employment

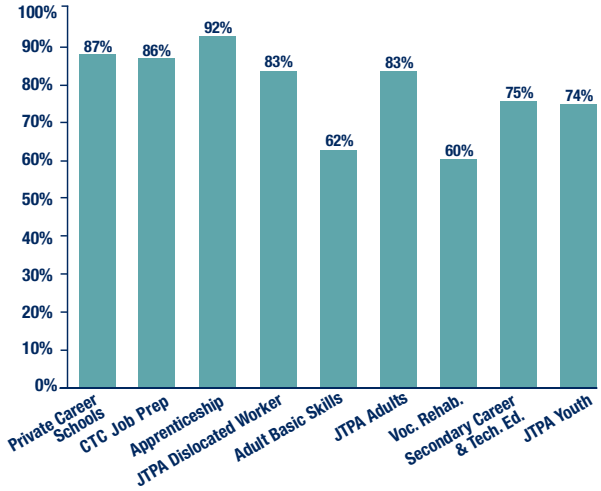
Desired Outcome: *Washington's workforce finds employment opportunities.*

We evaluated the labor market outcomes of program participants by examining their employment and earnings during the third quarter after leaving a program. When considering these outcomes, please note that those who left programs during the later part of the 1999-2000 program year encountered a weakening labor market during their third quarter after exit. The full brunt of the recession had not yet hit, but unemployment rates were already on the rise.

Most former program participants reported having a job during the third quarter (six to nine months) after they left their program (Figure 6). Employment rates vary across programs. They are highest for programs serving adults and, as expected, are lower for programs serving youth, and lowest for programs serving adults with barriers to employment.

We used ESD records to examine changes in employment rates between participants who left programs during the 1997-98 and 1999-2000 program years.[8] Employment rates increased substantially among participants in community

FIGURE 6.
Percentage of Participants Self-Reporting Employment Six to Nine Months After Leaving Their Program



[8] Employment rates based on matches are lower than those based on survey results. ESD records do not contain information on self-employment. The estimates also exclude employment in states that are not included in our matching process.

and technical college job training and, especially, apprenticeships (Figure 7). Employment rates for JTPA adults and youth declined; perhaps the weakening labor market had a more adverse impact on these groups. The employment rate also declined for secondary career and technical education. However, the total placement rate for this program, which takes into account both employment and enrollment in further education, remained stable at 75 percent.[9]

Earnings

Desired Outcome: *Washington's workforce achieves a family-wage standard of living from earned income.*

Research has shown that postprogram earnings are very much affected by the characteristics of the participants who entered the program. Youth had the lowest postprogram hourly wages and quarterly earnings, and adults had the highest (Figure 8). Earnings and hourly wages were particularly high for individuals who participated in apprenticeship. In addition to the quality of the program, this finding reflects the length of the training and the labor market in their occupations and industries.

In all programs, hourly wages were higher, even after controlling for inflation, than were found two years ago. The largest wage increases were among participants in programs serving adults. Wage growth was more modest for the programs serving those with barriers to

[9] Among the students leaving secondary career and technical education in 1997-98, the total placement rate was 74 percent.

FIGURE 7.
Percentage of Participants Self-Reporting Employment Six to Nine Months After Leaving Their Program

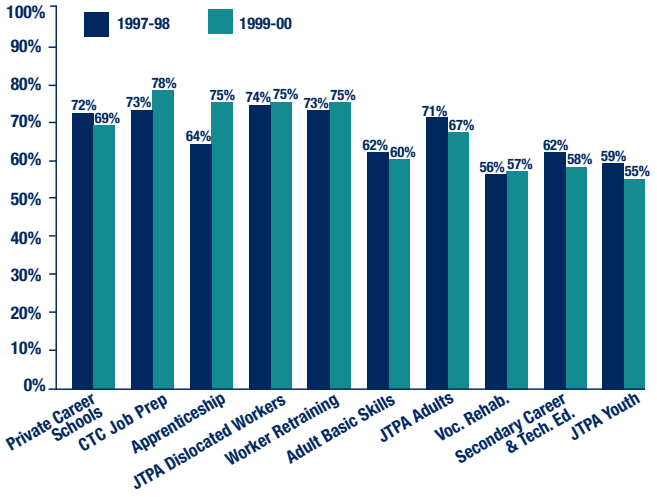


FIGURE 8.
Median Hourly Wages and Annualized Earnings of Participants Six to Nine Months After Leaving the Program

	Hourly Wages of 1999-2000	Annualized Earnings of 1999-2000	Percentage Change from 1997-98*	
			Hourly Wages	Earnings
PROGRAMS FOR ADULTS				
Community and Technical College (CTC) Job Preparatory Training	$13.17	$24,227	16%	20%
Private Career Schools	$11.24	$19,353	20%	18%
Apprenticeship	$19.24	$32,420	10%	15%
JTPA Dislocated Workers	$12.88	$24,075	1%	1%
CTC Worker Retraining	$12.86	$23,531	10%	8%
PROGRAMS FOR ADULTS WITH BARRIERS				
Adult Basic Skills	$9.25	$15,317	4%	-3%
JTPA Adults	$9.72	$15,523	5%	1%
DVR Vocational Rehabilitation	$9.17	$13,013	6%	4%
PROGRAMS FOR YOUTH				
Secondary Career and Technical Education	$8.28	$10,258	6%	3%
JTPA Youth	$7.65	$7,364	12%	9%

*All figures are reported in 2001 quarter 1 dollars; i.e., controlling for inflation.

FIGURE 9.
Hourly Wages of Women Relative to Men During Third Quarter After Training

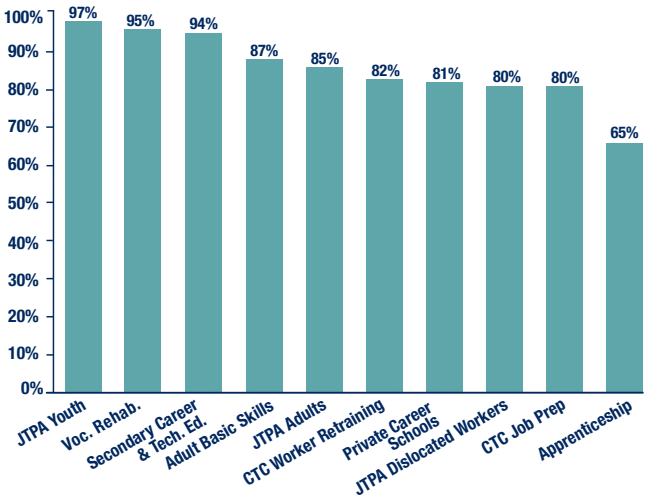
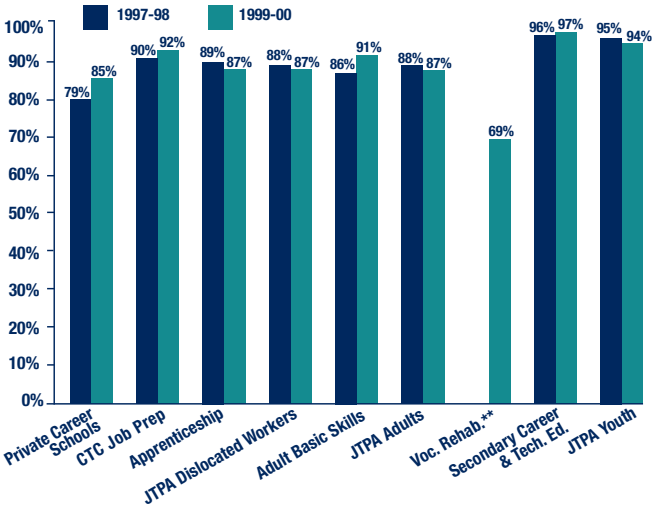


FIGURE 10.
Percentage of Participants Satisfied With Their Program*



** Average of percentage meeting educational objectives and percentage satisfied with overall quality of their program.*

*** Figure is the percentage reporting overall satisfaction with the program.*

employment and for secondary career and technical education. Still, real wages among the participants in these programs were 4 to 6 percent higher than reported two years ago.

For most programs, postprogram earnings and hourly wages were lower for women than for men who participated in the same program (Figure 9). Earnings were also lower for people with disabilities. Earnings were lower for people of color than for whites in six of the ten programs.[10] These differences in postprogram wages and earnings by gender, disability status, and race/ethnicity generally reflect differences observed in the overall labor market.

Participant Satisfaction

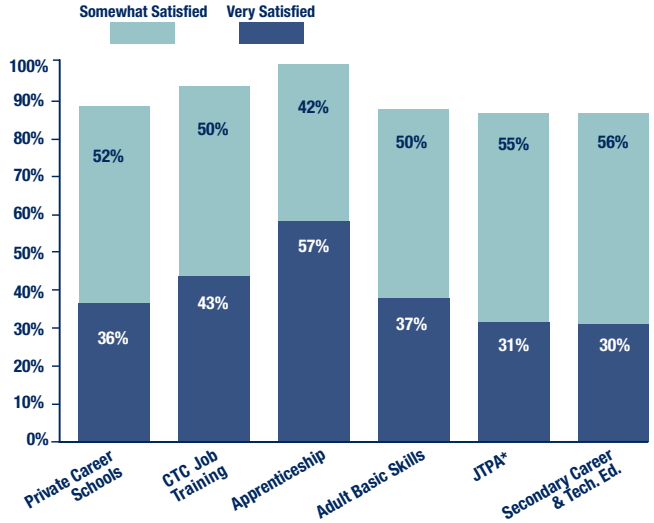
Desired Outcome: *Workforce development participants are satisfied with workforce development services and results.*

The vast majority of participants were satisfied with their program (Figure 10). Satisfaction levels—measured by averaging the percentage reporting that they met their educational objectives and the percentage satisfied with the overall quality of their programs—are high for all programs. Reported levels of satisfaction increased among private career school and adult basic skills participants. Satisfaction levels for other programs are similar to those reported by the 1997-98 participants.

Although results vary by program, the aspects of programs that tend to have the lowest participant satisfaction were support services. Most participants reported receiving the services they required. However, many participants in several programs reported an unmet need for job opening information, career counseling, and financial assistance—earlier cohorts of program participants also reported these unmet needs in earlier evaluations.

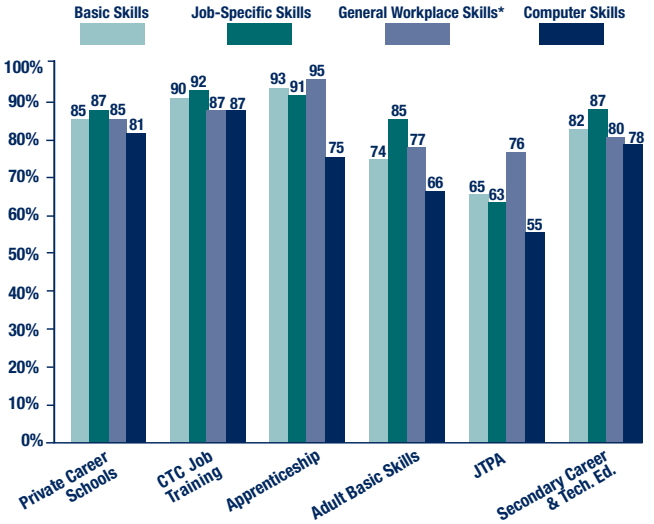
[10] No substantial racial-ethnic wage differentials were observed for the Adult Basic Skills, DVR, Secondary Career and Technical Education, and JTPA II-C programs.

FIGURE 11.
Percentage of Employers Satisfied With the Overall Work Quality of New Employees Who Recently Completed a Program



** Refers to all JTPA participants (II-A, III, and II-C).*

FIGURE 12.
Percentage of Employers Satisfied With Skills of New Employees
(average across skills in the selected categories)



** General workplace skills included teamwork, problem solving, communication, work habits, accepting supervision, and adaptability to change.*

Employer Satisfaction

Desired Outcome: *Employers are satisfied with workforce development services and results.*

Employers were generally satisfied with the overall work quality of new employees who recently completed one of these programs (Figure 11). Still, there is substantial room for improvement in the percentages of employers reporting they are very satisfied with the quality of new hires.[11]

Employers tended to be most satisfied with job-specific skills of new employees (Figure 12). The major exception was among employers of former JTPA participants: employers tended to be least satisfied with the computer skills of their new hires.

Net Impact and Cost-Benefit Evaluation

Return on Investment

Desired Outcome: *Workforce development programs provide returns that exceed program costs.*

In addition to providing the outcomes of the programs, the report also includes the findings of net impact and cost-benefit evaluations. These evaluations attempt to estimate what happened to program participants as compared to what would have happened if they had not participated in a workforce development program. The objective is to determine the difference that the program made for the participant. WTECB contracted with the W.E. Upjohn Institute for Employment Research[12] to conduct the net impact and cost-benefit evaluations. Upjohn performed these evaluations for nine of the ten programs.[13]

[11] These results are much higher than was reported two years ago, but we suspect that changes in the survey design account for much of the increase in reported employer satisfaction.

[12] Dr. Kevin Hollenbeck headed the team.

[13] Net impacts were not estimated for the DVR Program, because no viable comparison group was available.

Individuals who participated in these workforce development programs were compared to similar individuals who did not. The comparison groups were selected from registrants with the state's Employment Service.[14] An empirical approach, called statistical matching, was used to find the Employment Service registrant who most closely matched each program participant in terms of a long list of characteristics.[15] (Please see the Technical Appendix to the full report for a more detailed methodological discussion.)

For the cost-benefit analyses, Upjohn calculated the value of the net impacts on participant earnings, employee benefits, social welfare benefits, unemployment insurance benefits, and taxes.[16] Benefits and costs were estimated for both the observed postprogram period and out to the age of 65.[17]

Upjohn found that during the third year after program participation, the payoffs to education and training are strong and pervasive (Figure 13). Employment impacts for all programs are positive. Seven of the nine programs increased the average earnings of participants. JTPA Title II-C for disadvantaged youth and adult basic education, however, have earning impacts that are essentially zero. While no effect was found for these two programs on the average earnings among those working, total earnings among participants of the two programs increased because more were working. All other programs show sizeable earnings impacts among those working on the order of 20 percent. The combined effects on average earnings and employment rates yield sizable impacts on total lifetime earnings.

Figure 14 compares lifetime participant benefits to public costs. For example, during the course of working life to age 65, the average community and technical college job preparatory student will gain about $95,000 in net earnings (earnings minus foregone earnings while in training) and over $19,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive training (discounted at 3 percent and expressed in 2001 dollars). The ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is $114,141 to $6,916, or over 16 to 1. Lifetime participant benefits far exceed public costs for each of the programs presented in Figure 14 on the next page. Cost-benefit comparisons were not calculated for apprenticeship and private career school programs because of data constraints. However, the participant benefits from these programs, discussed in the full report, were achieved with little taxpayer expense.

Tax revenues are also affected by the change in participant earnings (Figure 14). For example, during the entire post-training period to age 65, the public gains an estimated $18,936 in tax revenues for each JTPA Title III participant. Estimated increases in tax receipts alone outweigh public costs for each program. Moreover, several of the programs were found to reduce reliance on social welfare; Temporary Assistance for Needy Families (TANF), food stamps, and medical benefits. The JTPA programs for disadvantaged adults and youth, in particular, were estimated to substantially reduce social welfare receipts during participant lifetimes.

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[14] A different source of data was used for the comparison group for secondary career and technical education. The Office of Superintendent of Public Instruction collects data on high school seniors. This Graduate Follow-Up Study was used to identify both students completing vocational-technical education, as well as comparable students who had not completed vocational education.

[15] These include demographics (e.g., race, ethnicity, gender, disability status, prior education, age, region of the state), preprogram earnings and employment history, UI benefit receipt history, and preprogram receipt of public assistance.

[16] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

[17] In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by three percent per year and all figures are stated in 2001 dollars.

FIGURE 13.
Longer-Term Employment and Earnings Net Impacts

	Employment	Quarterly Earnings (among those working)	Lifetime Earnings*
Community and Technical College (CTC) Job Preparatory Training	7.0%	$1,185	$96,263
Apprenticeship	5.3%	$1,908	$162,443
JTPA III Dislocated Workers	7.3%	$466	$75,293
CTC Worker Retraining	6.3%	$423	$66,268
JTPA II-A Adults	7.4%	$543	$61,565
Adult Basic Skills	1.6%	**	$5,263***
Secondary Career and Technical Education	5.7%	$451	$59,363
JTPA II-C Youth	5.3%	**	$28,853***

Longer-term refers to impacts observed 8 to 11 quarters after leaving the program.

Longer-term impacts were not estimated for private career school programs because of data constraints.

* This is the increase in earnings (above that of the comparison group) projected to age 65 and discounted at 3 percent. Includes effects from increased employment and increased earnings among those employed.

** Not statistically significant at the 0.10 level.

*** Increases in employment more than offset the lack of earnings impacts among the employed.

FIGURE 14.
Participant Benefits, Public Costs, and Increases in Tax Receipts to Age 65

	Participant Benefits*	Public Costs**	Increased Tax Receipts***
Community and Technical College (CTC) Job Preparatory Training	$114,141	$6,916	$24,210
JTPA III Dislocated Workers	$78,177	$2,575	$18,936
CTC Worker Retraining	$65,025	$4,692	$16,666
JTPA II-A Adults	$73,518	$3,384	$15,484
Adult Basic Skills	$6,038	$983	$1,324
Secondary Career and Technical Education	$71,236	$870	$14,930
JTPA II-C Youth	$34,281	$2,325	$7,257

Cost-benefit comparisons were not made for apprenticeship and private career school programs due to data constraints.

* Present value of the additional lifetime earnings and employee benefits less foregone earnings during program participation.

** State and federal program costs per participant.

*** Present value of additional social security, Medicare, federal income, and state sales taxes generated by increased participant earnings to age 65.

Community and Technical Colleges Job Training

Thirty-four community and technical colleges provide job preparatory training throughout the state. This training provides students with the skills required for specific occupations. Job preparatory training does not include students who intend to transfer to a four-year college or university; students who enroll in a program to raise their basic skills to a high school level; or working adults who take a few classes to improve skills for their current jobs. Worker Retraining students are also excluded from the analysis presented below; the Worker Retraining Program is evaluated separately.

Information was obtained on 16,691 job preparatory students who completed or otherwise left a community or technical college during the 1999-2000 school year.[1] Fifty-one percent of these former students received degrees or certificates; up from 45 percent two years earlier. Typically, students enrolled for two years (the median length of enrollment was eight quarters).

This study includes information from students' college enrollment records and Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. In addition, 1,651 of the students completed a telephone survey, providing additional data on employment and their satisfaction with the training. Survey responses from 486 firms that hired new employees who recently completed a job preparatory program provide information on employer satisfaction with the skills of these graduates.

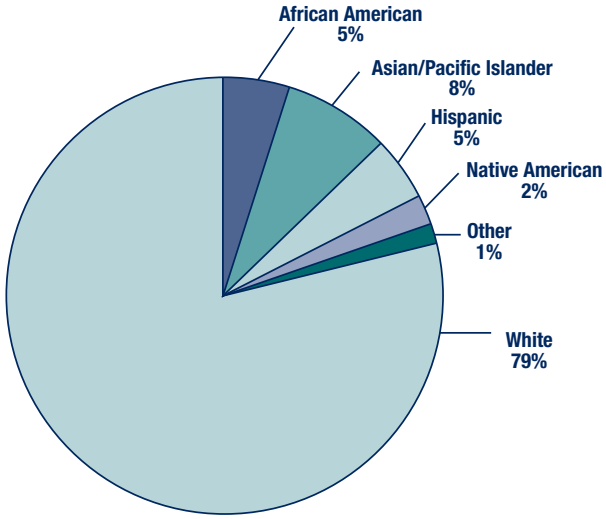
Participant Characteristics

The racial and ethnic composition of the students in our study roughly reflects that of the general population. About one in five of the students are people of color, as is now the case with all Washington residents (Figure 1).

The students do, however, include a slightly higher proportion of African Americans and Asian/Pacific Islanders.[2] Fifty-five percent are women.

When they enrolled, just over half had not previously attended college; 24 percent had attended college without receiving a credential; 13 percent had a certificate or associate degree; and 8 percent had baccalaureate degrees. The median age upon leaving their training programs was 31. Only 27 percent of the students were under age 25, about 35 percent were between 25 and 35, and 38 percent were over age 35.

FIGURE 1.
Characteristics of Community and Technical College Job Preparatory Students: Race and Ethnicity



[1] In order to be included in this study, students had to have identified themselves as vocational students and have either enrolled for six or more vocational credits or have completed three or more vocational credits.

[2] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise seven-and- a half percent of the state's population. Racial composition figures depend upon how multiracial residents are counted. Including those who report more than one race, about four percent of our residents are African American, nearly three percent are Native American, and just over seven percent are Asian/Pacific Islander. Among those reporting only one race, three percent are African American, less than two percent are Native American, and six percent Asian/Pacific Islander.

Competency Gains

The primary goal of workforce training and education is to provide individuals with the skills and abilities required in the workplace. Job preparatory students mirrored this purpose in their survey responses. The most common reason students cited for enrolling in college was to "get skills for a new job" (85 percent).

Based on survey results, 83 percent of the students received training in specific job skills, and 80 percent of those reported that these skills improved a lot (Figures 2 and 3). Between 59 and 72 percent of the students received training in teamwork, problem solving, computer, math, diversity, and writing skills. Again, most students reported that their skills in these areas had improved as a result of their training. Except for a decline in the percent

FIGURE 2.
Community and Technical College Job Preparatory Students Receiving Specific Skills Training

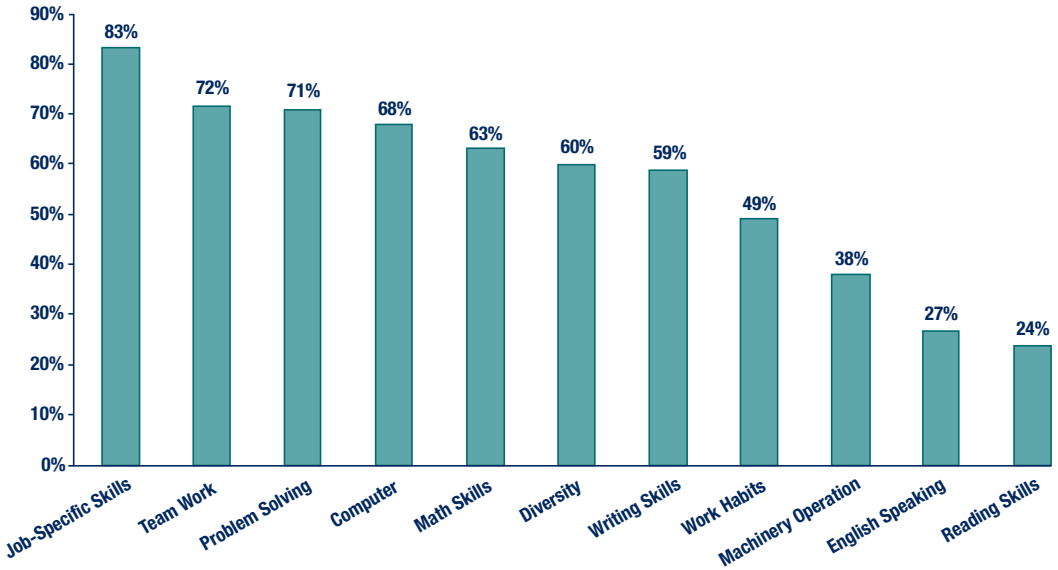
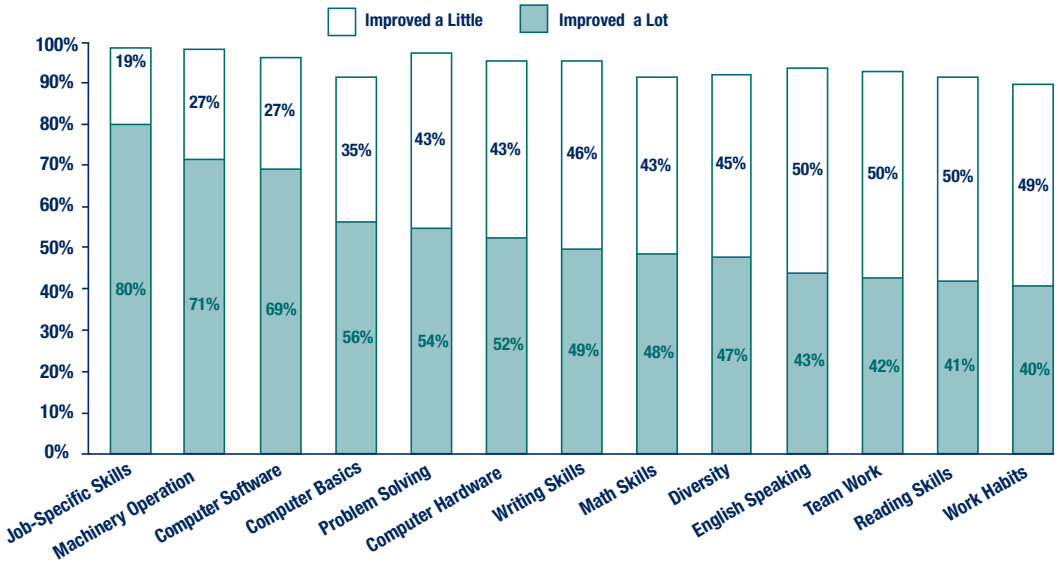


FIGURE 3.
Community and Technical College Students Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot



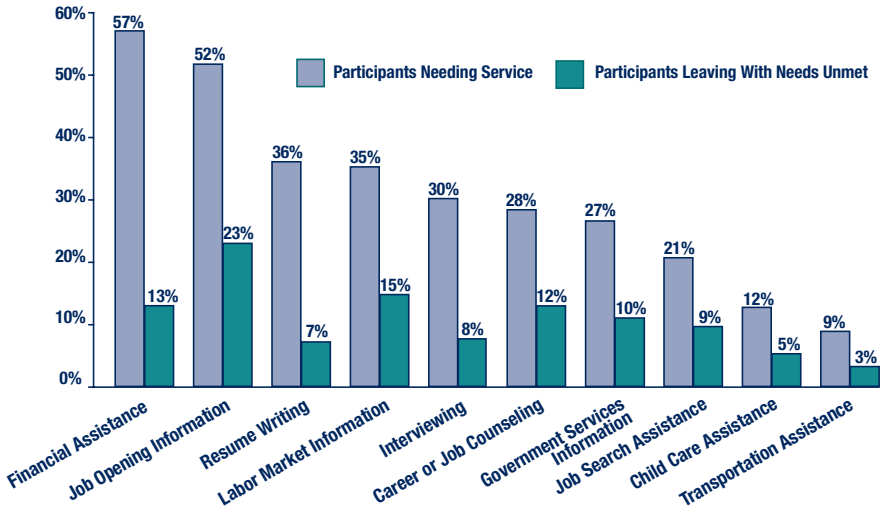
receiving training in the operation of machinery, the results are similar to those reported two years ago. Among students employed six to nine months after leaving the program, eight in ten report that their education and training related to their job.

Ninety percent of former students reported that they were very or somewhat satisfied with the program as a whole. This is virtually the same level of satisfaction as reported two years ago. Overall, 94 percent reported that they had met their educational objectives (of these, 64 percent reported they had definitely met their educational objectives). Satisfaction levels with the quality of teaching, length of training, interaction with instructors, facilities, and cost of training were all close to or above 90 percent. About 82 percent of the students reported satisfaction with advice on selecting a program.

Students were also asked about support services related to their college training. The services most frequently needed were financial assistance (57 percent) and information about job openings (52 percent). Roughly a third of students required assistance with resume writing, labor market information, and interviewing skills (Figure 4). Support service needs are not much different from those reported two years ago.

Most students received the support services needed. The services with the most frequently cited unmet student needs[3] are related to job search—job opening information, labor market information, and job counseling (Figure 4). This pattern of unmet needs was also found in our previous evaluations; still some progress has been made. Unmet need for job opening information, for example, declined from 27 percent reported two years ago to 23 percent.

FIGURE 4.
Support Service Needs of Community and Technical College Job Preparatory Students



Employer Satisfaction

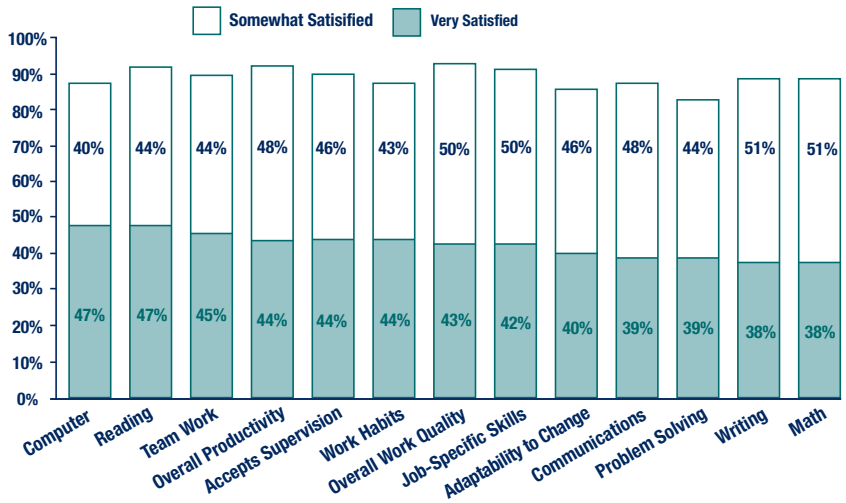
The Workforce Training and Education Coordinating Board's employer survey,[4] which was administered during the fall of 2001, asked firms to evaluate new employees who had recently completed a vocational program at a community or technical college. Among the 486 employers who provided such an evaluation, 92 percent said they were either somewhat or very satisfied with the overall productivity and job-specific skills of these new employees.[5] Firms tended to be at least somewhat satisfied with the computer, workplace, and basic skills of these workers (Figure 5).

[3] Unmet needs are measured as the percentage of students who needed a service but either did not receive it or what they received did not meet their needs.

[4] *Workforce Training Needs and Practices of Washington State Employers.*

[5] Changes in survey design make it impossible to draw comparisons with previous rounds of the survey.

FIGURE 5.
Employer Satisfaction With New Employees Who Had Recently Completed a Job Preparatory Program at a Community or Technical College



Employment and Earnings

According to the survey responses, 86 percent of 1999-2000 job preparatory students were employed during the period six to nine months after leaving their program (Figure 6). To find out more about the former students' postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain information only on those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of the total employment in state, with self-employment being the largest type of employment not covered).

Record matches found that 78 percent of the 1999-2000 students had reported employment during the third quarter after they left their program. Their median wage[6] was $13.17 per hour, and they had median annualized earnings of $24,180. Note that the employment rates, earnings, and hourly wages of job preparatory students have increased substantially over the past six years. The median wage of those leaving the colleges in 1999-2000 was 16 percent higher (controlling for inflation) than for those who left in 1997-98, and 25 percent higher than those leaving in 1995-96.

The median wage of former job preparatory students is high, but there is considerable variation in wages. While one quarter earned more than $18 an hour, another quarter had jobs that paid less than $10 an hour. The distribution of wages received by former job preparatory students was:

	Hourly Wage
Lowest 25%	Below $10.02
Second 25%	$10.02 – $13.16
Third 25%	$13.17 – $18.70
Highest 25%	Above $18.70

During the third quarter after leaving their program, the typical (median) student with reported employment had sufficient earnings to support a household of 6.2 persons above the poverty level. Using a higher income standard, the typical employed student earned enough to support 2.2 persons at a family wage of twice the poverty level.

Earnings varied by gender, race, and ethnicity. It is important to note, however, that these differences are characteristic of the labor market as a whole. Among those with employment reported to the ESD during the third quarter after leaving the program, the median earnings for female students

[6] All wages and earnings are stated in first quarter 2001 dollars.

FIGURE 6.
Employment and Earnings of Community and Technical College Job Preparatory Students in the Third Quarter After Leaving Program

	1995-96	1997-98	1999-00
Percentage self-reporting employment during third quarter after leaving program	86%	83%	86%
Percentage with employment reported by employers to Employment Security the third quarter after leaving program	62%	73%	78%
Median quarterly hours worked, of those working	452	451	479
Percentage employed full-time of those working (30 or more hours/week)	63%	65%	69%
Median annualized earnings of those working	$18,015	$20,151	$24,180
Median annualized earnings of those working and not enrolled in further education		$20,236	$24,227
Size of household in which median earnings would support at poverty level	4.1	4.8	6.2
Size of household in which median earnings would support at twice poverty level	1.1	1.5	2.2
Median hourly wage of those working	$10.54	$11.34	$13.17
Percentage self-reporting receipt of medical benefits from employer	67%	65%	68%
Percentage self-reporting receipt of pension benefits from employer	44%	43%	46%

Notes: Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

was only 71 percent that of males; their median hourly wage was only 80 percent that of males ($12.03 versus $15.07). This gap largely reflects gender differences in program enrollments. Women do enroll in high-wage programs—they account for 9 out of every 10 students in associate degree nursing, practical nursing, and dental hygienist programs. However, many more women enroll in programs that pay relatively low wages. Among the students exiting from the 12 traditionally lowest-paid programs[7] in the colleges, 82 percent are women.

The median earnings for Native Americans, during the third quarter after leaving a college, was 77 percent that of whites; the median for African Americans and Hispanics was 88 percent that of whites. Native American, African American, and Hispanic students are less likely to have completed higher wage programs in the colleges. The percentage of people of color in the higher wage programs, however, has increased over the past five years.[8]

Earnings and employment outcomes also varied by disability status. College records suggest that 7 percent of the students included in this study had a disability. These students were less likely to have employment reported to the ESD during the third quarter after exit (63 versus 79 percent). Among those working, the median hourly wage rate of those with a disability was 87 percent that of those without a disability. These students were also less likely to work full-time (63 versus 70 percent), and their median earnings were 82 percent that of those with no reported disability.

According to the survey responses, 68 percent of those with a job nine months after leaving their program received medical benefits as part of their employment, and 46 percent reported receipt of pension benefits. Ten percent of the students reported receiving some form of public assistance during the past 12 months, either Temporary Assistance for Needy Families (TANF) or food stamps.

[7] These 12 include: administrative support, cosmetology, early childhood education, teaching assistant, nursing assistant, veterinarian assistant, marketing/sales, agriculture/forestry, culinary arts, social services, other health services, and other services.

[8] State Board for Community and Technical Colleges, Research Report No. 02-3, *Access and Success for System Goals for People of Color in Washington Community and Technical Colleges: Eighth Progress Report*, June 2002.

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to participants after they leave the colleges (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these participants as compared to what would have happened if they did not attend a job preparatory program. The objective is to determine the short-term and long-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the program were compared to individuals who had similar characteristics, but who didn't. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

Job preparatory training has strong positive net impacts on employment, wages, hours worked and earnings. Training substantially increases the lifetime earnings of participants.

Figure 7 shows the short-term net impacts of training at community and technical colleges. During the third quarter after the 1999-2000 participants left training, there were positive net impacts on each measure of employment and earnings. The training was associated with an increase of 7.6 percentage points in employment as reported to the ESD. Among those with reported employment, the impact on wage rates was $2.59 per hour, and the impact on hours worked per quarter was 40.4 hours. There was a very large impact on mean quarterly earnings—$1,470. Note that these impacts are the differences between participant results and the employment and earnings of similar individuals who did not participate in one of the programs included in the study.

There were only minor or insignificant short-term net impacts on social welfare benefits. During the third postprogram quarter, training was associated with a small increase in the percentage receiving TANF benefits, but this impact did not persist in the longer run.

The longer-term net impacts of training are shown in Figure 8. These are the impacts observed 8 to 11 quarters after participants left the colleges during the 1997-98 school year. The strong, positive impacts of training on employment and earnings persist in the longer-term. Moreover, training is associated with reduced receipt of social welfare benefits.

The data allowed for separate analysis of both students who completed their training and those who left before completing. The long-term net impacts of training are greater for completers, indicating the value of students' completing their programs. The longer-term impact on quarterly earnings, for example, is $1,185 for all former students and $1,520 for program completers.

FIGURE 7.
Short-Term Net Impacts
Results for Community and Technical College Job Preparatory Students Who Left Programs During PY 1999-2000

	Net Impact
Employment: percentage in reported employment	7.6%
Mean Hourly Wage: of those working	$2.59
Mean Hours Worked: per quarter for those working	40.4
Mean Quarterly Earnings: of those working	$1,470
TANF: percentage receiving aid	0.5%
Food Stamps: percentage receiving	–0.4%*
Medical Benefits: percentage receiving	–0.7%*

Short-term refers to impacts observed in the third quarter after leaving the program.
* Not statistically significant at the 0.10 level.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.[9] Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 1997-98, because a longer-term follow-up is required for this analysis.

Projected participant benefits to age 65 far outweigh public costs by a ratio of over $16 in participant benefits per public dollar invested in college training.

For each participant in job preparatory training, the public (taxpayer) cost is $6,916 over the length of their enrollment, and the participant cost is $3,118 in tuition and $1,375 in foregone earnings while training (Figure 9). During the first two-and-a-half years after leaving college, the average trainee will gain $4,275 in earnings. During the course of working life to age 65, the average trainee will gain about $95,000 in net earnings (earnings minus foregone earnings) and over $19,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training. The ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is $114,141 to $6,916, or 16.5 to 1.

Figure 8.
Longer-Term Net Impacts
Results for Community and Technical College Job Preparatory Students Who Left Colleges During PY 1997-98

	All Participants	Program Completers
Employment: percentage in reported employment	7.0%	10.1%
Mean Hourly Wage: of those working	$1.70	$2.52
Mean Hours Worked: per quarter for those working	44.8	47.1
Mean Quarterly Earnings: of those working	$1,185	$1,520
TANF: percentage receiving aid	–0.4%*	–2.4%*
Food Stamps: percentage receiving	–1.4%	–5.4%
Medical Benefits: percentage receiving	–1.8%	–5.1%
Unemployment Insurance: percentage receiving	–0.7%*	–1.8%

Long-term refers to impacts observed 8 to 11 quarters after leaving the program.
* Not statistically significant at the 0.10 level.

The total public (taxpayer) costs is less than the program costs because the training is associated with decreased state welfare expenditures and increased tax revenues. During the first two-and-a half years after training, the public saved $535 per participant in reduced expenditures on TANF, food stamps, medical benefits, and unemployment insurance benefits. From the time of leaving training to age 65, the public is forecast to save almost $2,600 in welfare and unemployment insurance costs. Moreover, the public is expected to gain over $24,000 per participant in additional social security, Medicare, federal income, and state sales taxes—far greater than the direct cost of college training.

[9] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

Areas for Improvement

The evaluation found several areas of strength in community and technical college job preparatory training. A large majority of students were satisfied with their college training program. Most students obtained jobs that paid a decent wage, and postprogram employment, earnings, and wages have been increasing over the past six years. Moreover, the net impact analysis suggests that job preparatory training has substantial positive impacts on employment and earnings. Most students received the support services needed. However, many students continue to report that their needs for services related to job search and career counseling were not met.

The colleges might do more to eliminate gender and racial-ethnic differences in the labor market outcomes. Efforts to recruit women and minorities into higher-wage programs should continue. There should also be efforts to improve labor market outcomes for students with disabilities.

Also, the median age of job preparatory students remains high. Colleges should continue efforts to increase enrollments among young people.

FIGURE 9.
Benefits and Costs of Job Preparatory Training at Community and Technical Colleges

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Earnings	$4,275		$96,263	
Employee Benefits	$855		$19,253	
Taxes	-$1,075	$1,075	-$24,210	$24,210
UI Benefits	-$7	$7	-$1,767	$1,767
TANF*	-$469	$469	-$905	$905
Food Stamps	-$20	$20	$217	-$217
Medical Benefits	-$39	$39	-$141	$141
Foregone Earnings	-$1,375		-$1,375	
Program Costs**	-$3,118	-$6,916	-$3,118	-$6,916
TOTAL	-$973	-$5,306	$84,216	$19,890

*TANF benefits reflect the value of cash grants, childcare, and other client support services.
**Participant program costs refer to tuition.

Private Career Schools

Private career schools are independent businesses that provide students with training in a variety of occupations. No public funds are appropriated for private schools, but eligible students may:

1. Obtain federal grants and loans to pay for educational expenses if the school they choose has been authorized to participate in federal student aid programs.

2. Secure funding under the state's Worker Retraining Program.

3. Use "Individual Training Account" vouchers, funded under Title I-B of the federal Workforce Investment Act (WIA).

There are roughly 326 private career schools in Washington State. The Workforce Training and Education Coordinating Board (WTECB) licenses 247 certificate-granting vocational institutions. The Higher Education Coordinating Board regulates 14 private schools that grant associate or baccalaureate degrees. The state's 65 cosmetology schools are regulated by the Department of Licensing and are not included in this study.

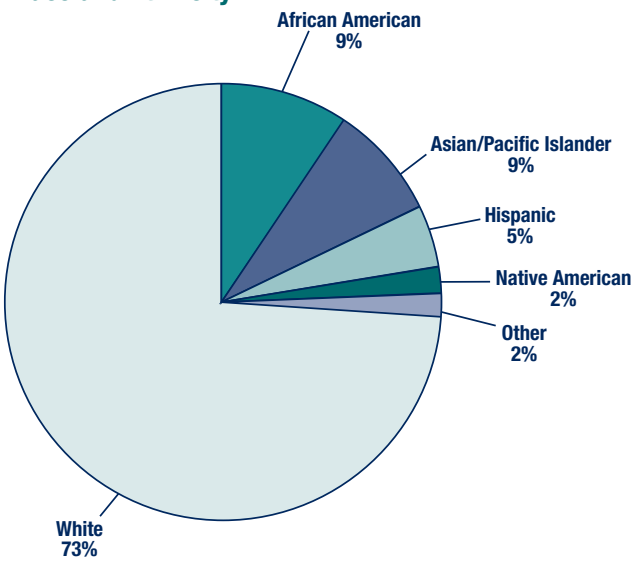
There is no central data file on all private career school students. This study is based on information from 109 certificate-granting schools that are licensed by the WTECB and reported sufficient data. Program records were collected on 10,051 students who left programs during the 1999-2000 school year.[1] The median length of enrollment for these students was 4.4 months. According to administrative records, 73 percent completed their programs before leaving the schools.

The study includes information from students' enrollment records and Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. The ESD records contain wages and hours of work for approximately 85 to 90 percent of employment in these states. The records do not contain information for those who are self-employed or employed outside the Pacific Northwest. In addition, 249 of the students completed a telephone survey, providing additional data on employment and satisfaction with training. Survey responses from 211 firms that hired new employees who recently completed a private career school program provide information on employer satisfaction with the skills of these graduates.

Participant Characteristics

Private career school students were generally more diverse than the state population in terms of race-ethnicity and gender. Twenty-seven percent of the private career students in this study were people of color, compared to 21 percent for the state population as a whole (Figure 1).[2] Representation among

FIGURE 1.
Characteristics of Private Career School Students: Race and Ethnicity



[1] These data do not provide full coverage of the private career school sector. However, coverage is improving. The evaluation for 1997-98, for example, was based on records for only 4,155 students.

2 Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. The racial composition figures depend upon how multiracial residents are counted. If those reporting more than one race are included, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, under 2 percent are Native American, and 6 percent Asian/Pacific Islander.

African Americans was particularly noteworthy; African Americans accounted for 9 percent of the students, but they represent only 4 percent of the state's population. Fifty-nine percent of the students were women.

The typical (median) student was age 27 when they enrolled; a fifth were under age 21 at registration, and 40 percent were over 31. When they enrolled, most had completed high school (93 percent), and about a quarter had some postsecondary schooling.[3]

FIGURE 2.
Private Career School Students Receiving Specific Skills Training

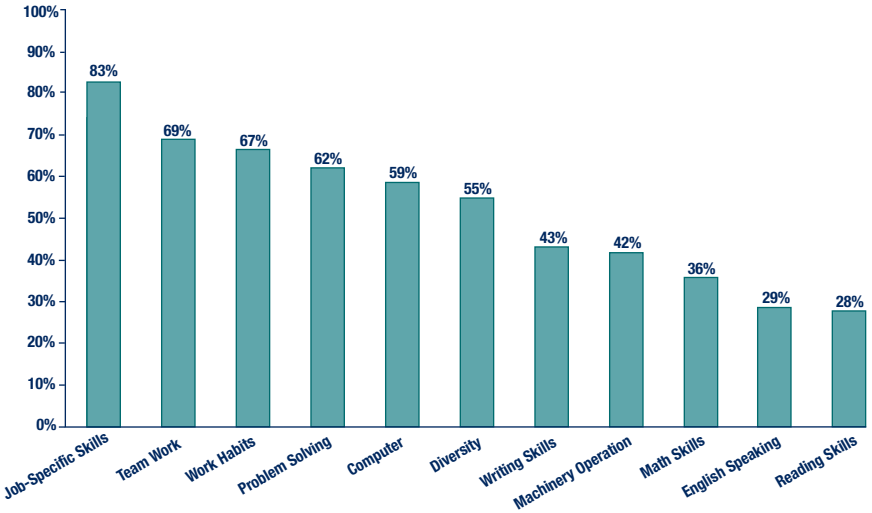
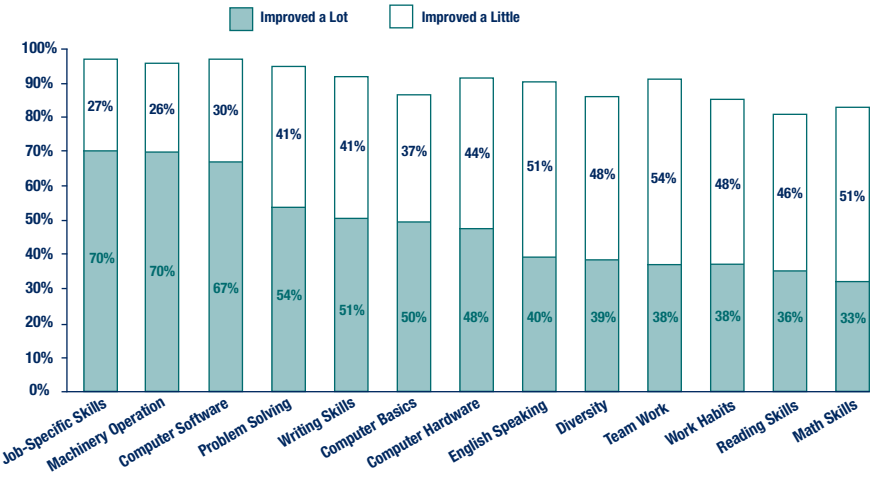


FIGURE 3.
Private Career School Students Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot



Competency Gains

According to the survey results, most students (94 percent) indicated that they entered a private career school to acquire skills for a new job, and most (83 percent) did receive job-specific skills training while enrolled (Figure 2). The majority of students also received training in computer and workplace skills (teamwork, work habits, problem solving, and diversity).

Students often said that their skills improved substantially. Among those receiving such training, 70 percent reported that their job-specific skills and ability to operate machinery improved a lot (Figure 3). Sixty-seven percent said that their computer software skills improved substantially. Students were less likely to report that their teamwork, work habits, reading and math skills improved a lot. Among those employed after training, 74 percent stated that their job was related to the training they received at a private career school.

Participant Satisfaction

On the whole, former students were satisfied with their private career school training. Overall, 80 percent said they were satisfied with their program. Satisfaction was highest (around 85 percent satisfied) with advice received on selecting a program, facilities used in training, and the quality of

[3] Fifteen percent had some college, but no degree; 4 percent had a certificate or associate degree; and 4 percent had a baccalaureate degree.

teaching. Satisfaction was lowest (59 percent satisfied) with the cost of training. Eighty-nine percent reported that their educational objectives were met (56 percent said objectives were definitely met; 33 percent partially met).

Students reported needing some key support services as part of their private career school education. About 60 percent needed information about job openings and financial assistance (Figure 4). Over 40 percent required help with resume writing and interviewing. In most cases, services were provided. However, a quarter of the students reported that their need for information on job openings was not met.

Employer Satisfaction

The WTECB employer survey,[4] which was administered during the fall of 2001, asked firms to evaluate new employees who had recently completed a program at a private career school. Among the 211 employers who provided such an evaluation, 88 percent said they were either somewhat or very satisfied with the overall quality of work of these new employees.[5] Eighty-seven percent were satisfied with their job-specific skills, but only 30 percent said they were very satisfied with these skills.

Employment and Earnings

According to survey responses, 87 percent of the 1999-2000 private career school students were employed during the period six to nine months after leaving their program. To find out more about the former students' postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain information on only those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of in-state employment).

FIGURE 4.
Support Service Needs of Private Career School

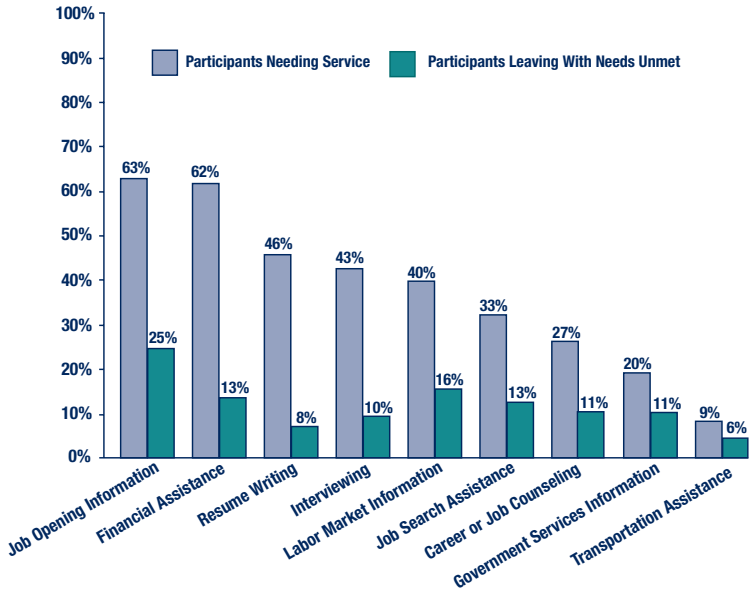
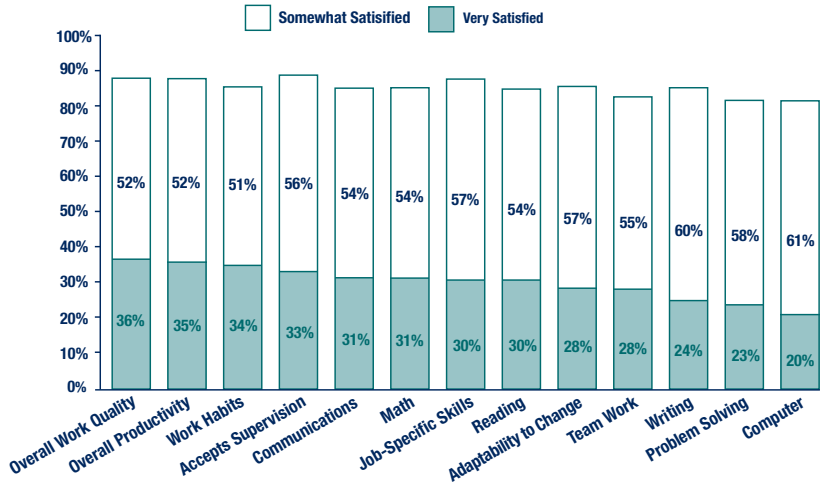


FIGURE 5.
Employer Satisfaction With New Employees Who Had Recently Completed a Private Career School Program



[4] *Workforce Training Needs and Practices of Washington State Employers.*

[5] Changes in survey design make it impossible to draw comparisons with previous rounds of the survey.

Based on these matches, 69 percent of the private career school students were found to have employment reported to ESD during the third quarter after they left their program (Figure 6). The median wage for this group was $11.24 per hour[6]; a 20 percent increase over the median wage reported two years ago.[7] The median wage for those who completed their programs was $11.59.

The third quarter after they left their private career school training, the typical (median) employed student had sufficient earnings to support a household of 4.6 persons above the poverty level. The typical student earned enough to support about 1.4 persons at a family wage of twice the poverty level.

According to the survey responses, 71 percent of those employed had health benefits provided by their employer, and 39 percent received pension benefits.

The earnings of former students varied by both gender and race-ethnicity. The median wage for women was 19 percent lower than that for men. The median wage for Hispanics was 14 percent lower than that for whites; wage rates for African Americans were 9 percent lower than whites, and they were 5 percent lower for Native Americans and Asians.

[6] Among the 1999-2000 students, there was considerable variation in wages. Almost a quarter earned $9 or less an hour, while another quarter earned over $15.

[7] Comparisons of the statistics reported in Figure 6 across different years could be problematic. The data for 1995-96 and 1997-98 are based on small samples of private career schools. Moreover, the schools included in these data have changed over time.

FIGURE 6.
Employment and Earnings of Private Career School Students in the Third Quarter After Leaving the Program

	1995-96 All	1997-98 All	1999-00 All	1999-00 Completers
Percentage self-reporting employment during third quarter after leaving program	82%	87%	87%	
Percentage with employment reported by employers to ESD during the third quarter after leaving program	55%	72%	69%	70%
Median quarterly hours worked, of those working	437	448	450	463
Percentage employed full-time of those working (averaging 30 or more hours/week)	58%	56%	60%	63%
Median annualized earnings of those working	$15,808	$16,439	$19,353	$20,592
Size of household in which median earnings would support at poverty level	3.4	3.6	4.6	5.0
Size of household in which median earnings would support at twice poverty level	0.9	1.0	1.4	1.6
Median hourly wage of those working	$9.08	$9.39	$11.24	$11.59
Percentage self-reporting receipt of medical benefits from employer	61%	68%	71%	
Percentage self-reporting receipt of pension benefits from employer	33%	33%	39%	

Notes: Earnings and wages are expressed in first quarter 2001 dollars.
Figures for 1995-96 and 1997-98 are based on relatively small samples of schools.
Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to students after they leave their programs (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these students as compared to what would have happened if they did not attend a private career school program. The objective is to determine the short-term and long-term impacts of training on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who attended a private career school were compared to individuals who had similar characteristics, but who didn't attend one. The comparison group members were selected from registrants to the state's employment service. Short-run net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 1999-2000.[8] Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

[8] No longer-term impacts of private career school programs where estimated because of data constraints. The data also did not permit us to analyze public and private program costs, therefore no cost-benefit analysis was conducted.

Among the students who completed their private career school programs, the training substantially increased employment and raised earnings.

Figure 7 shows the short-term net impacts of private career school training. During the third quarter after the 1999-2000 students left their programs, training was associated with an increase of 2.6 percentage points in employment as reported to the ESD. Among those with reported employment, there were no statistically significant impacts on wages, hours worked, and earnings. Training was associated with modest increases in the percentages receiving social welfare benefits.

The data allowed for separate analysis of both students who completed their training and those who left before completing. The impacts of training are substantially greater for completers, indicating the value of students' completing their programs. Completing a private career school program was associated with an 8.2 percentage point increase in employment; and there were positive net impacts on hourly wages, hours worked, and quarterly earnings (Figure 7). The training also reduced reliance on social welfare benefits among completers. Note that these impacts are the differences between completer results and the employment and earnings of similar individuals who did not participate in one of the programs included in the study.

FIGURE 7.
Short-Term Net Impacts
Results for Private Career School Students Who Left a Program During PY 1999-2000

	Net Impacts	
	All Participants	Program Completers
Employment: percentage in reported employment	2.6%	8.2%
Mean Hourly Wage: of those working	$0.25*	$0.73
Mean Hours Worked: per quarter for those working	-4.9*	15.1
Mean Quarterly Earnings: of those working	$10*	$373
TANF: percentage receiving aid	2.7%	-0.9%*
Food Stamps: percentage receiving	2.9%	-2.6%
Medical Benefits: percentage receiving	3.8%	-0.7%*

Short-term refers to impacts observed in the third quarter after leaving the program.
* Not statistically significant at the 0.10 level.

Areas for Improvement

Most private career school students reported they were satisfied with their training, they were employed, their training was related to their jobs, and their job-specific skills increased a lot. The net impact analysis found that among the students who completed their programs, the training substantially increased employment and raised earnings.

Access to support services is generally very high in the schools. However, several students reported that their need for information on job openings was not met.

The wages of former students differ by gender and race-ethnicity. Women earn less than men, and Hispanics and African Americans earn less than whites. The schools might do more to eliminate gender and racial-ethnic differences in labor market outcomes. Efforts should be made to recruit women and minorities into higher-wage programs.

Apprenticeship

Apprenticeship in Washington is governed by the Washington State Apprenticeship and Training Council and administered by the Department of Labor and Industries. Apprenticeship combines classroom studies with extensive on-the-job training under the supervision of a journey-level craft person or trade professional. Apprentices receive wages, health, pension, and other benefits while learning occupational skills. Apprenticeships require that applicants be at least 16 years old (18 for construction trades), and most require at least a high school diploma or GED for entrance.

For this study, administrative records were obtained for 3,198 apprentices who left a program during the 1999-2000 program year. Of these participants, 35 percent completed their apprentice program. Overall, apprentices spent a median of 13.4 months in their program. Among apprenticeship completers, the median program length was 39 months.

This study includes information from Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. In addition, 210 former apprentices completed a telephone survey, providing additional data on employment and their satisfaction with the training. Survey responses from 130 firms that hired new employees who recently completed an apprenticeship program provide information on employer satisfaction with the skills of these workers.

Participant Characteristics

Apprentices were more diverse than the state population in terms of race and ethnicity, except for Asian/Pacific Islanders who were underrepresented (Figure 1).[1] African Americans were represented at twice their proportion of the state population. Relatively few women, however, enter apprenticeships; only 11 percent of the participants ending an apprenticeship in 1999-2000 were women.

The typical age at which apprentices entered their programs was quite high. The median age at enrollment was 27 years. A quarter of the apprentices were age 34 or older when they enrolled.

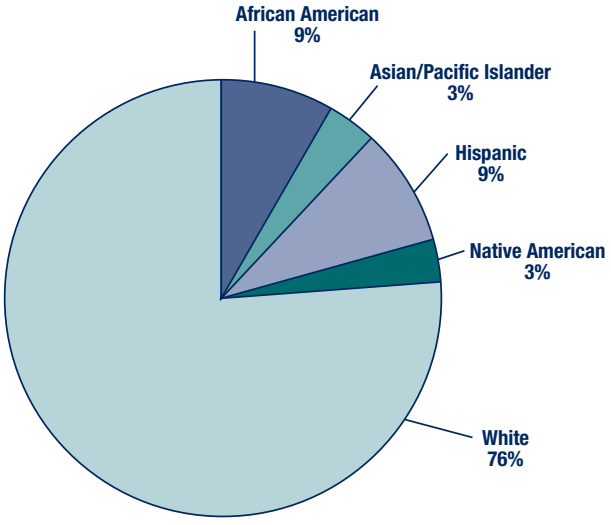
Competency Gains

By definition, people enter an apprenticeship program to acquire occupation- or industry-specific training. Apprentices receive both classroom and on-the-job training, and our survey asked apprentices about their experience with both.

Classroom Skills Training

The majority of former apprentices reported receiving classroom training in specific job skills (89 percent), the operation of machinery (79 percent), math (70 percent), teamwork (66 percent), work habits (65 percent), and problem-solving skills (62 percent). Only 26 percent said

FIGURE 1.
Characteristics of Apprenticeship Program Participants: Race and Ethnicity



[1] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. The racial composition figures depend upon how multiracial residents are counted. If those reporting more than one race are included, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, under 2 percent are Native American, and 6 percent Asian/Pacific Islander.

FIGURE 2.
Apprenticeship Program Participants Receiving Specific Classroom Skills Training

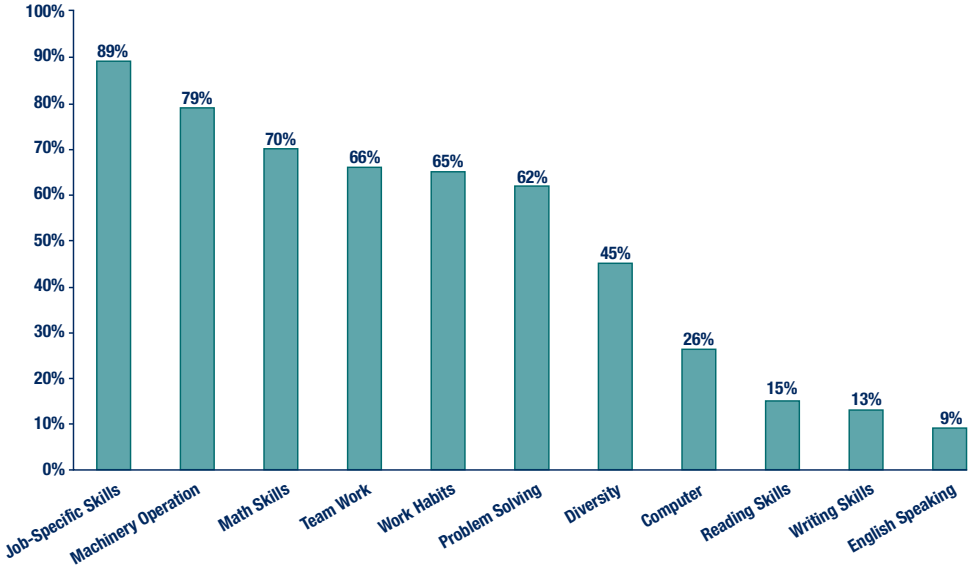
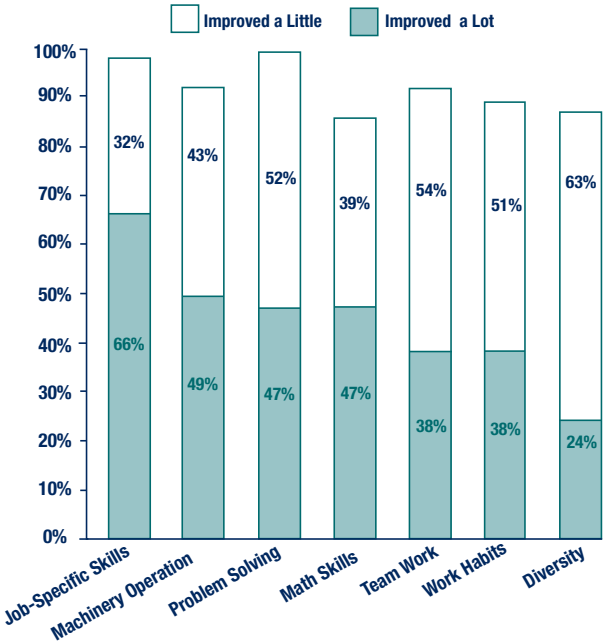


FIGURE 3.
Apprenticeship Program Participants Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot Due to Classroom Training



they received any classroom computer training. Few received training in reading, writing, or English speaking skills. (See Figure 2.)

The majority of former apprentices reported that their job-specific skills improved a lot (66 percent). About half reported substantial skill improvements in machinery operation, problem-solving skills, and math skills (Figure 3). Fewer reported substantial improvements in teamwork skills or work habits — although most reported at least some skill improvement in all areas.

Among former apprentices who were employed when surveyed, 92 percent reported that their training was related to their job.

On-The-Job Skills Training

Most former apprentices also reported receiving on-the-job training in specific job skills (92 percent) and the operation of machinery (88 percent). About two-thirds received on-the-job training in work habits, problem solving, and teamwork (Figure 4).

Apprentices rated their on-the-job training highly. Most said that this training substantially improved their job-specific, machinery operation, and problem-solving skills (Figure 5).

FIGURE 4.
Apprenticeship Program Participants Receiving On-The-Job Skills Training

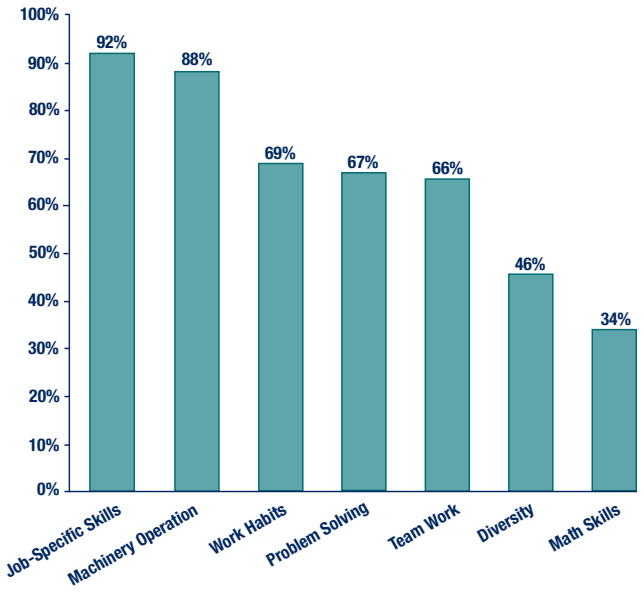
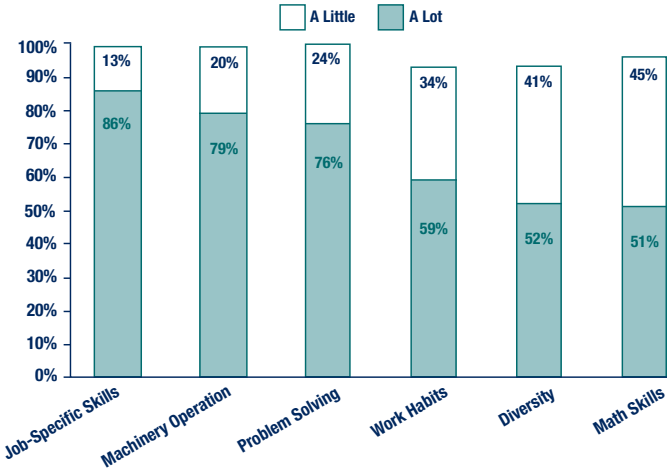


FIGURE 5.
Apprenticeship Program Participants Receiving Skills Training Who Reported Their Skills Improved a Little or a Lot Due to On-The-Job Training



Participant Satisfaction

Survey results indicate that participants were, on the whole, satisfied with their apprenticeship program. Most reported overall satisfaction with the program; 84 percent were satisfied with their classroom training and 91 percent with their on-the-job training. Ninety percent met their educational objectives by participating in the training.

Apprentices reported a much lower need for support services than the other groups we studied. Their greatest needs were for information on job openings and labor market information, and most of those who required these services received them (Figure 6). Few apprentices needed childcare assistance. However, among those that did, few had their needs met.

Employer Satisfaction

The employer survey asked firms to evaluate new employees who had recently completed an apprenticeship program. Their satisfaction with job-specific skills, general workplace skills, and basic skills were assessed. Most employers were at least somewhat satisfied with all these skill

FIGURE 6.
Support Service Needs of Apprenticeship Program Participants

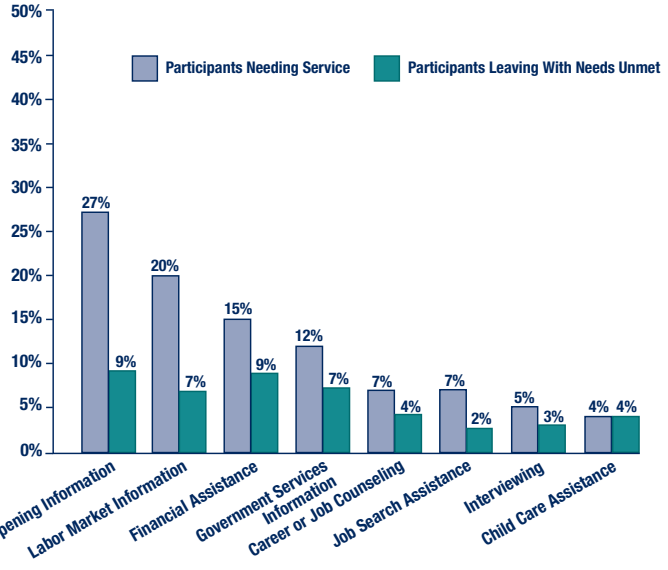
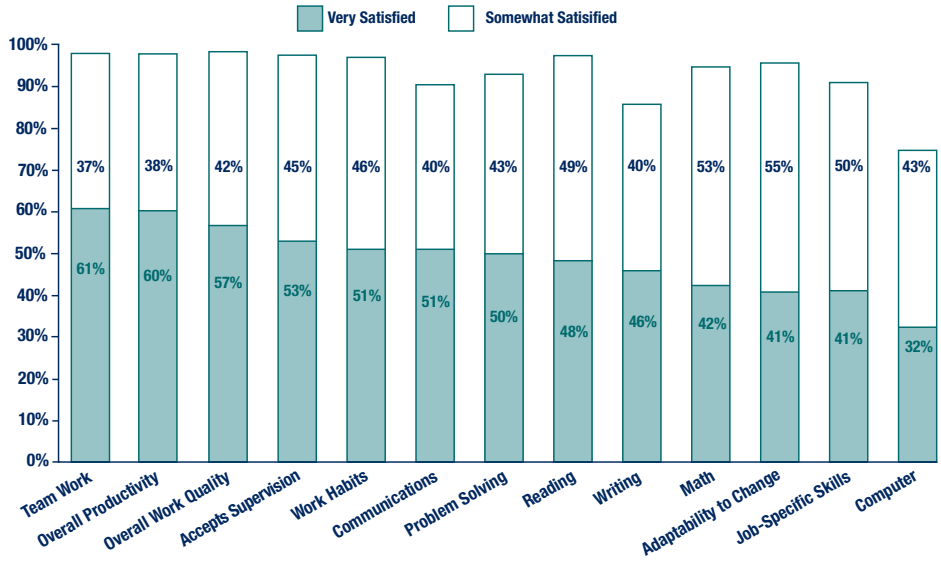


FIGURE 7.
Employer Satisfaction With New Employees Who Had Recently Completed an Apprenticeship Program



categories (Figure 7). Most were very satisfied with the teamwork skills and overall productivity of former apprentices. The lowest level of reported satisfaction was with computer skills.

Employment and Earnings

Labor market outcomes for apprenticeships are higher than for any other program we studied. In addition to the quality of apprenticeship training and the wage levels in these occupations, this result may be due to the relatively long length of the program.

According to survey results, 92 percent of apprentices reported being employed nine months after leaving training (Figure 8). To find out more about postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain information only on those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of the total employment in state, with self-employment being the largest type of employment not covered).

According to these records, 75 percent of former apprentices had reported employment during the third quarter after they left the program. Their median wage was $19.24 per hour, and annualized earnings were $32,420. Limiting our analysis to just those apprentices who completed their program, the results are even stronger—93 percent had employment reported to the ESD, the median wage was $27.28 per hour, and median earnings were $50,599. These employment rates, wages, and earnings are considerably higher than reported two years ago.

During the third quarter after leaving their program, the typical (median) participant had sufficient earnings to support a household of 8.9 persons above the poverty level. Using a higher income standard, the typical participant earned enough to support 3.5 persons at a family wage of twice the poverty level. Among completers, the numbers are even higher (Figure 8).

According to the survey responses, 89 percent of those employed had health benefits provided by their employer, and 81 percent received pension benefits.

FIGURE 8.
Employment and Earnings of Apprenticeship Program
Participants in the Third Quarter After Leaving the Program

	1995-96	1997-98		1999-00	
	All	All	Completers	All	Completers
Percentage self-reporting employment during third quarter after leaving the program	93%	93%		92%	
Percentage with employment reported by employers to ESD the third quarter after leaving program	68%	64%	75%	75%	93%
Median quarterly hours worked, of those working	455	456	480	460	489
Percentage employed full-time of those working (averaging 30 or more hours/week)	63%	58%	66%	65%	82%
Median annualized earnings of those working	$29,762	$28,212	$44,011	$32,420	$50,599
Size of household in which median earnings would support at poverty level	8.0	7.5	12.7	8.9	14.9
Size of household in which median earnings would support at twice poverty level	3.1	2.8	5.4	3.5	6.5
Median hourly wage of those working	$18.98	$17.47	$25.17	$19.24	$27.28
Percentage self-reporting receipt of medical benefits from employer	81%	83%		89%	
Percentage self-reporting receipt of pension benefits from employer	72%	78%		81%	

Notes: Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

The median wage of former apprentices is high, but there is considerable variation in wages. While one quarter earned more than $27 an hour, another quarter had jobs that paid less than $12 an hour. The distribution of wages received by former apprentices was:

	Hourly Wage
Lowest 25%	Below $11.89
Second 25%	$11.89 – $19.24
Third 25%	$19.25 – $27.28
Highest 25%	Above $27.28

Earnings varied by gender and race-ethnicity. Women earned only 61 percent as much as their male counterparts during the third quarter after leaving the program, due to fewer hours worked and lower hourly wages. The median wage of former female apprentices was 65 percent that of former male apprentices. This gap largely disappears for apprenticeship completers. Among completers, the median wage for women was 93 percent that of men.[2] The completion rate was lower for women, but not dramatically so—31 percent of female apprentices completed their programs; 35 percent of males completed.

Non-white apprentices also had lower wages. During the third quarter after exit, the median wage for African American former apprentices was only 57 percent that of whites. The median wages for Native Americans (82 percent) and Hispanics (85 percent) were also lower than that for whites. Racial-ethnic wage differentials persist among apprenticeship completers, but the gaps are much narrower. Among completers, the median wages for African Americans (85 percent), Native American (98 percent), and Hispanics (92 percent) are closer to that for white former apprentices.

[2] The remaining wage differences may reflect different trades studied by women and men.

Completion rates also vary by race. Thirty-eight percent of white apprentices completed their programs, yet only 15 percent of African American apprentices did so. The completion rates were also lower for Native Americans (30 percent) and Hispanics (27 percent).

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to apprentices after they leave their programs (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these participants as compared to what would have happened if they did not attend an apprenticeship program. The objective is to determine the short-term and long-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who attended a program were compared to individuals who had similar characteristics, but who didn't participate in it. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

Apprenticeship programs have very large, positive impacts on earnings that stem mainly from increased hourly wages.

Figure 9 shows the short-term net impacts of apprenticeship training. During the third quarter after the 1999-2000 apprentices left training, there were positive net impacts on each measure of employment and earnings. The training was associated with an increase of 5.4 percentage points in employment as reported to the ESD. Among those with reported employment, the impact on wage rates was $5.03 per hour, and the impact on hours worked per quarter was 11.7 hours. There was a very large impact on mean quarterly earnings—$2,030. Note that these impacts are the differences between participant results and the employment and earnings of similar individuals who did not participate in one of the programs included in the study. Training was also associated with modest declines in percentages receiving food stamps and Medicaid.

The longer-term net impacts of training are shown in Figure 10. These are the impacts observed 8 to 11 quarters after apprentices left training the 1997-98 program year. The strong, positive impacts of training on employment and earnings persist in the longer-term.

The data allowed for separate analysis of both apprentices who completed their training and those who left before completing. The long-term net impacts of training are substantially greater for completers, indicating the value of completing an apprenticeship. The longer-term impact on quarterly earnings, for example, is $1,908 for all former apprentices and $4,265 for those that completed. Data constraints did not permit us to analyze public

FIGURE 9.
Short-Term Net Impacts
Results For Apprentices Who Left a Program During PY 1999-2000

	Net Impact
Employment: percentage in reported employment	5.4%
Mean Hourly Wage: of those working	$5.03
Mean Hours Worked: per quarter for those working	11.7
Mean Quarterly Earnings: of those working	$2,030
TANF: percentage receiving aid	–0.2%*
Food Stamps: percentage receiving	–1.3%
Medical Benefits: percentage receiving	–2.4%

Short-term refers to impacts observed in the third quarter after leaving the program.

* Not statistically significant at the 0.10 level.

and private program costs. However, it is clear that the very substantial benefits to trainees were achieved at very little cost to the public.

Areas for Improvement

The results for apprenticeship training are quite positive. Median earnings and wages were relatively high, most participants were very satisfied with their training, most were employed, and almost all believed their training was related to their employment. Moreover, the net impact analysis found that apprenticeship programs have very large, positive impacts on earnings.

There are, however, areas for improvement. The typical age at which apprentices enter their programs remains quite high. Efforts at recruiting younger adults into the program should continue. Among the various types of training provided, relatively few apprentices reported receiving computer training. The lowest level of reported satisfaction among employers was with computer skills. Clearly greater efforts are needed in recruiting women into apprenticeships and encouraging them to complete their programs. Only 11 percent of participants ending an apprenticeship in 1999-2000 were women. Their median wage was substantially below that of former male apprentices, but the gender gap in earnings largely disappears among those completing their apprenticeships.

Apprenticeship should also address the relatively high dropout rates. The long-term earnings impacts of training are substantially greater for completers. Particular attention should be paid to the higher dropout rates among minority participants, especially among African Americans. Differences in completion rates are a major factor determining the racial and ethnic wage differentials among former apprentices.

FIGURE 10.
Longer-Term Net Impacts
Results for Apprentices Who Left a Program During PY 1997-98

	Net Impact
Employment: percentage in reported employment	5.3%
Mean Hourly Wage: of those working	$3.72
Mean Hours Worked: per quarter for those working	11.6
Mean Quarterly Earnings: of those working	$1,908
TANF: percentage receiving aid	–0.1%*
Food Stamps: percentage receiving	–1.6%
Medical Benefits: percentage receiving	–3.1%
Unemployment Insurance: percentage receiving	5.3%

Longer-term refers to impacts observed 8 to 11 quarters after leaving the program.

* Not statistically significant at the 0.10 level.

Worker Retraining at Community and Technical Colleges

The Worker Retraining Program provides dislocated workers and the long-term unemployed with access to job retraining for a new career. Program enrollments vary from year to year in response to layoffs; during recessions need increases. The industries from which students are laid off also vary over time.

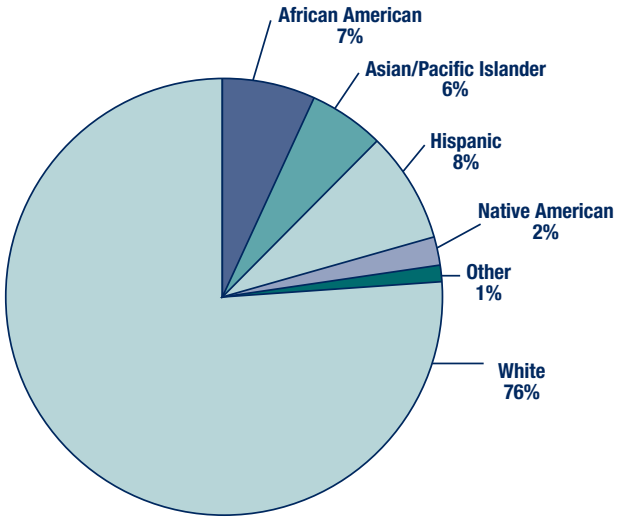
About 5 percent of Worker Retraining participants receive their training at private career schools. This evaluation, however, is limited to training at community and technical colleges. The colleges provide training in occupational skills, related or supplemental instruction for apprentices, and basic skills and literacy. Students qualifying may receive financial assistance to help with their tuition.

Information was obtained on 5,193 Worker Retraining students who completed or otherwise left a community or technical college program during the 1999-2000 school year. Of these students, half were program completers—29 percent received a degree or certificate, and 22 percent were defined as completers because they completed 45 or more credits or a unique (non-degree) program.

Typically, Worker Retraining students enrolled for nine months. However, the median program length varied substantially between program completers (18.1 months) and non-completers (6.0 months).

The study includes information from students' college enrollment records and Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. We did not conduct a survey of former participants as this is the first report to include an evaluation of the Worker Retraining Program.

FIGURE 1.
Characteristics of Community and Technical College Worker Retraining Participants: Race and Ethnicity



Participant Characteristics

The racial and ethnic composition of Worker Retraining participants roughly reflects that of the general population. The participants do, however, include a slightly higher proportion of people of color, especially African Americans (Figure 1).[1] Forty-seven percent are women.

When they enrolled in the program, 44 percent had previously attended college, but only 21 percent had previously received a certificate or degree. The median age upon leaving the program was 40 years; only 20 percent were under age 30, and 35 percent were 45 or older.

[1] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. Racial composition figures depend upon how multiracial residents are counted. Including those who report more than one race, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, less than 2 percent are Native American, and 6 percent Asian/Pacific Islander.

Employment and Earnings

In order to examine postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain information only on those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of the total employment in state, with self-employment being the largest type of employment not covered). Record matches found that 75 percent of the 1999-2000 students had reported employment during the third quarter after they left their program. Their median wage[2] was $12.86 per hour, and they had median annualized earnings of $23,531 (Figure 2). Program completers had higher earnings and hourly wage rates than those who did not complete their training programs. Note also that the earnings and hourly wages of Worker Retraining students have increased. The median wage of those leaving the colleges in 1999-2000 was 10 percent higher (controlling for inflation) than for those who left in 1997-98.

The median wage of former students is high, but there is considerable variation in wages. While one quarter earned more than $17.75 an hour, another quarter had jobs that paid less than $10 an hour.

The distribution of wages received by former Worker Retraining students was:

	Hourly Wage
Lowest 25%	Below $9.96
Second 25%	$9.96 – $12.86
Third 25%	$12.87 – $17.75
Highest 25%	Above $17.75

During the third quarter after leaving their program, the typical (median) student with reported employment had sufficient earnings to support a household of 5.9 persons above the poverty level. Using a higher income standard, the typical employed student earned enough to support 2.1 persons at a family wage of twice the poverty level.

Earnings varied by gender, race, and ethnicity. It is important to note, however, that these differences are characteristic of the labor market as a whole. Among those with employment reported to the ESD during the third quarter after leaving the program, the median earnings for female participants was only 77 percent that of males; their median hourly wage was only 82 percent that of males ($11.63 versus $14.21). The median hourly wage for Hispanics, during the third quarter after leaving a college, was 80 percent that of whites; the median for African Americans was 92 percent that of whites.

FIGURE 2.
Employment and Earnings of Community and Technical College Worker Retraining Participants in the Third Quarter After Leaving Program

	1997-98	1999-00	
	All	All	Completers
Percentage with employment reported by employers to ESD the third quarter after leaving program	73%	75%	77%
Median quarterly hours worked, of those working	470	480	482
Percentage employed full-time of those working (averaging 30 or more hours/week)	69%	70%	72%
Median annualized earnings of those working	$21,746	$23,531	$24,788
Size of household in which median earnings would support at poverty level	5.4	5.9	6.4
Size of household in which median earnings would support at twice poverty level	1.8	2.1	2.3
Median hourly wage of those working	$11.73	$12.86	$13.29

Notes: Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

[2] All wages and earnings are stated in first quarter 2001 dollars.

Earnings and employment outcomes also varied by disability status. College records suggest that 10 percent of the Worker Retraining students included in this study had a disability. These students were less likely to have employment reported to the ESD during the third quarter after exit (62 versus 76 percent). Among those working, the median hourly wage rate of those with a disability was 89 percent that of those without a disability. These students were also less likely to work full-time (63 versus 71 percent), and their median earnings were 86 percent that of those with no reported disability.

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to participants after they leave the program (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these participants as compared to what would have happened if they had not attended Worker Retraining. The objective is to determine the short-term and long-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

FIGURE 3.
Short-Term Net Impacts
Results for Worker Retraining Participants Who Left the Program During PY 1999-2000

	Net Impact
Employment: percentage in reported employment	8.0%
Mean Hourly Wage: of those working	$0.54*
Mean Hours Worked: per quarter for those working	9.1*
Mean Quarterly Earnings: of those working	$147*
TANF**: percentage receiving aid	–0.0%*
Food Stamps: percentage receiving	–0.5%*
Medical Benefits: percentage receiving	–1.1%*

Short-term refers to impacts observed in the third quarter after leaving the program.
* Not statistically significant at the 0.10 level.
** Temporary Assistance for Needy Families (TANF)

In order to estimate these impacts, individuals who participated in the program were compared to individuals who had similar characteristics, but who didn't participate in it. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the program (or from the employment service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

Worker Retraining substantially increases employment, hours worked and earnings, especially in the longer-term. Program participation also reduces reliance on public assistance.

Figure 3 shows the program's short-term net impacts. Note that these impacts are the differences between participant results and the employment and earnings of similar individuals who did not participate in the program. During the third quarter after 1999-2000 participants left the program, training was associated with an increase of 8 percentage points in employment as reported to the ESD. The short-term impacts on hourly wages and earnings were also positive, though not statistically significant. Short-term net impacts on social welfare benefits were minor.

The longer-term net impacts of training, shown in Figure 4, are stronger. These are the impacts observed 8 to 11 quarters after participants left the program during the 1997-98 program year. The positive impact of training on employment persists in the longer-term. Moreover, training is associated with an increase in hours worked, higher quarterly earnings, and reduced receipt of social welfare benefits.

The data allowed for separate analysis of both participants who completed their training and those who left before completing. The long-term net impacts are greater for completers, indicating the value of students completing their programs.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.[3] Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 1997-98, because a longer-term follow-up is required for this analysis.

Projected participant benefits to age 65 outweigh public costs by a ratio of $14 in participant benefits per public dollar invested in college training. High foregone earnings during program participation are more than offset by substantial increases in lifetime earnings.

For each participant in Worker Retraining, the public (taxpayer) cost is about $4,700 over the length of their enrollment, and the participant costs are roughly $2,100 in tuition and $14,500 in foregone earnings while training (Figure 5). During the first two-and-a-half years after leaving college, the average trainee will gain roughly $2,800 in earnings. During the course of working life to age 65, the average trainee will gain about $52,000 in net earnings (earnings minus foregone earnings) and over $13,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training. The ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is $65,025 to $4,692, or 14 to 1.

FIGURE 4.
Longer-Term Net Impacts
Results For All Worker Retraining Participants and For Those Who Completed Training

	All Exiters 1997-98	Completers 1997-98
Employment: percentage in reported employment	6.3%	11.2%
Mean Hourly Wage: of those working	–$0.44*	$0.29*
Mean Hours Worked: per quarter for those working	35.1	34.4
Mean Quarterly Earnings: of those working	$423	$553
TANF: percentage receiving aid	–0.9%	–2.0%
Food Stamps: percentage receiving	–3.3%	–5.2%
Medical Benefits: percentage receiving	–2.4%	–4.2%
Unemployment Insurance: percentage receiving	–1.5%*	–1.4%*

Longer-term refers to impacts observed 8 to 11 quarters after leaving the program.
* Not statistically significant at the 0.10 level.

[3] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

FIGURE 5.
Benefits and Costs of Worker Retraining

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Earnings	$2,772		$66,268	
Employee Benefits	$554		$13,254	
Taxes	-$697	$697	-$16,666	$16,666
UI Benefits	-$250	$250	-$2,350	$2,350
TANF*	-$136	$136	$95	-$95
Food Stamp	-$66	$66	-$453	$453
Medical Benefits	-$78	$78	-$283	$283
Foregone Earnings	-$14,497		-$14,497	
Program Costs**	-$2,133	-$4,692	-$2,133	-$4,692
TOTAL	-$14,531	-$3,465	$43,198	$15,001

*TANF benefits reflect the value of cash grants, childcare, and other client support services.
**Participant program costs refer to tuition.

The total public (taxpayer) costs is less than the program costs because the training is associated with decreased state welfare expenditures and increased tax revenues. During the first two-and-half years after training, the public saves $530 per participant in reduced expenditures on TANF, food stamps, medical benefits, and unemployment insurance benefits. From the time of leaving training to age 65, the public is forecast to save almost $3,000 in welfare and unemployment insurance costs. Moreover, the public is expected to gain about $17,000 per participant in additional social security, Medicare, federal income, and state sales taxes—far greater than the direct cost of college training.

Areas for Improvement

The evaluation found that Worker Retraining substantially increases employment, hours worked, and earnings, especially in the longer-term. Relatively high foregone earnings during training are more than offset by increases in postprogram earnings.

The employment and earnings impacts of training are greater for completers, yet many participants leave the colleges before completing their training.

The wages of former participants differ by gender and race-ethnicity. Women earn less than men, and Hispanics and African Americans earn less than whites. The colleges might do more to eliminate gender and racial-ethnic differences in the labor market outcomes. There should also be efforts to improve labor market outcomes for students with disabilities.

Job Training Partnership Act Title III for Dislocated Workers [1]

Job Training Partnership Act (JTPA) Title III served a more limited population than other programs included in this study. It was restricted to what are commonly referred to as dislocated workers. Individuals were eligible if their employment had been terminated (or they had received a notice of termination) due to a permanent closure or substantial layoff at a plant or facility. Individuals were also eligible for Title III if they were eligible for unemployment compensation (or had already exhausted their benefits) and had few prospects for returning to their previous occupation or industry. When considering the outcomes from one year to another, it is important to remember that a major portion of program funding was made up of individual grants (National Reserve Grants) awarded on the basis of major plant closures or layoffs. As a result, the total funding level and the specific industries served by this program fluctuated from year to year.

As in other JTPA programs, JTPA Title III offered a variety of training and employment-related services. These included occupational training, basic skills instruction, and job search assistance such as career counseling, resume preparation, and job referrals. Occupational training occurred either at a training institution, such as a community or technical college, a private vocational school, or at a worksite itself. The Employment Security Department (ESD) administered the program at the state level. It was administered by 12 service delivery areas at the local level. Each service delivery area was headed by a Private Industry Council, which either provided services directly or purchased services from other providers in partnership with local elected officials.

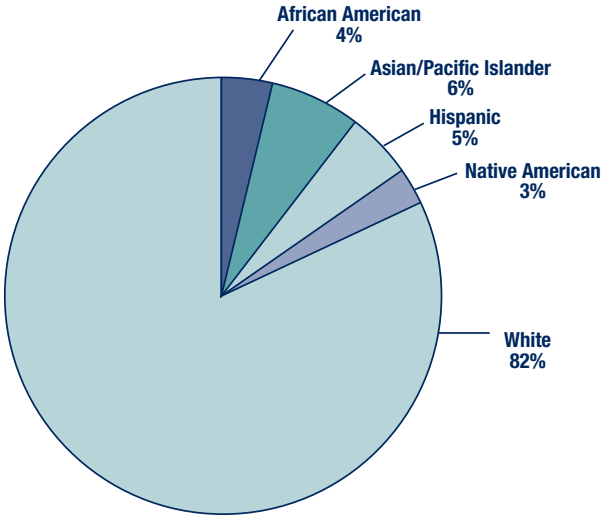
For this study, program records were obtained on 4,045 individuals who left JTPA Title III during the 1999-2000 program year (July 1, 1999, to June 30, 2000). Employment-related information was obtained through a match with ESD wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. In addition, 2,101 former participants responded to a telephone survey, providing additional information on employment, training, and satisfaction with the program. Employer satisfaction was assessed through survey responses from 189 firms that hired employees who recently completed a JTPA program.

The typical participant was enrolled in JTPA Title III for just under a year; the median length of participation was 11 months. There was, however, considerable variation in the amount of time participants spend in the program. Some received only job search and/or relocation assistance, while others enrolled in longer retraining programs.

Participant Characteristics

Participants mirrored the state's racial-ethnic population distribution (Figure 1).[2] Eighteen percent were people of color. Forty-seven percent were women.

FIGURE 1.
Characteristics of JTPA Title III Dislocated Workers: Race and Ethnicity



[1] This report is based upon JTPA programs in place during the time period July 1, 1999, to June 30, 2000. On July 1, 2000, the Workforce Investment Act replaced JTPA.

FIGURE 2.
JTPA Title III Dislocated Workers Receiving Specific Skills Training

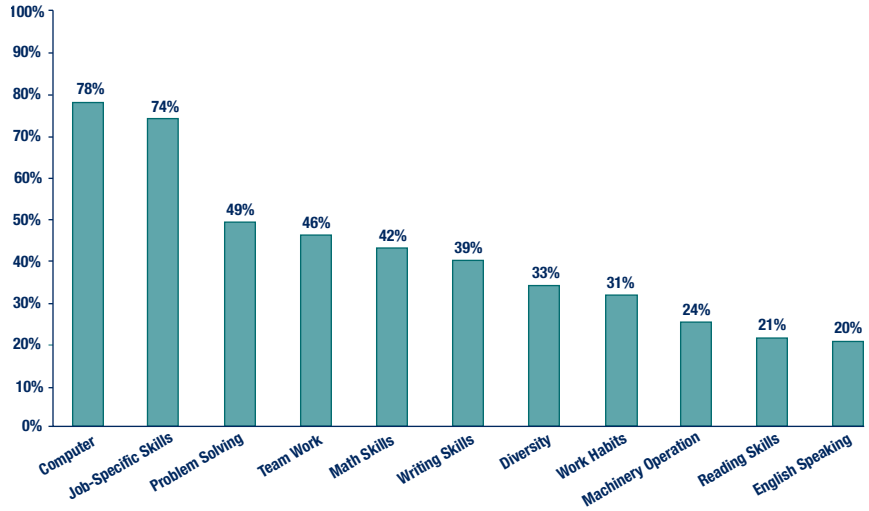
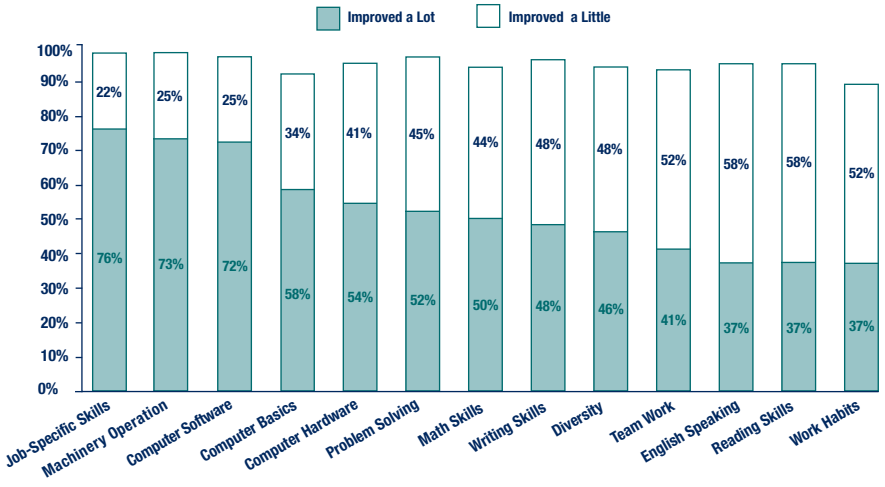


FIGURE 3.
JTPA Title III Participants Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot



The typical participants were in their thirties or forties. The median age at program registration was 41; only 17 percent were under 30 years of age, and 22 percent were over fifty. Forty-three percent had some college training before entering the program, but only 15 percent had obtained a bachelor's degree.

Just over half (52 percent) of the participants were dislocated from manufacturing jobs—13 percent from the lumber/wood/ paper industry, 10 percent from computer manufacturing, and 11 percent from the aircraft industry. Fourteen percent lost jobs in the trade sector, and 17 percent were formerly employed in services.

Competency Gains

Given the purpose of the program and participant characteristics, it is not surprising that 89 percent said they entered the program to acquire skills for a new job. According to the survey, 74 percent of the participants received specific job skills training. Of those, 76 percent said the training improved their skills a lot. (See Figures 2 and 3.) Seventy-eight percent received some computer training. Consistent with their relatively high level of education, relatively few participants reported receiving instruction in basic skills. Among those employed after the program, 68 percent said that their training was related to their job.

[2] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. The racial composition figures depend upon how multiracial residents are counted. If those reporting more than one race are included, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, under 2 percent are Native American, and 6 percent Asian/Pacific Islander.

Participant Satisfaction

The survey results indicate that the participants were generally satisfied with the JTPA Title III program. Eighty-six percent said they met their educational objectives for enrolling in the program, and 88 percent reported overall satisfaction with the program; virtually the same levels of satisfaction that were reported two years ago. Over 90 percent were satisfied with equipment used for training, the facilities and buildings, and the quality of teaching. The lowest level of reported satisfaction was for advice on selecting a program, with 49 percent very satisfied and an additional 35 percent somewhat satisfied.

The support services most frequently needed by participants were financial assistance, information on job openings, and labor market information (Figure 4). Most of those requiring these services did receive them. However, 30 percent reported an unmet need for information on job openings.

Employer Satisfaction

It was not feasible to survey employers about each of the JTPA programs included in the study (Titles II-A, II-C, and III) separately because there were too few individuals coming out of each program for a sufficient percentage of employers in the state to have had experience employing recent participants. Employers were instead asked about workers who had been trained by JTPA. This section presents findings on employer satisfaction with new employees who completed any type of JTPA program.

Overall, the results indicate that the majority of employers were satisfied with the quality and productivity of these workers. Eighty-six percent of employers said they were either somewhat or very satisfied with the overall quality of work of these new employees, and 87 percent were satisfied with the workers' overall productivity (Figure 5).

Employers tended to be more satisfied with general workplace skills (e.g., adaptability to change and ability to accept supervision) and less satisfied with job-specific skills. The lowest levels of reported satisfaction were with writing, math, and computer skills.

Employment and Earnings

According to survey responses, 83 percent of the 1999-2000 JTPA Title III participants had a job six to nine months following their program (Figure 6). Seventy-five percent were found to have employment reported to the ESD during the third quarter after they left the program; roughly the same percentage as found in our evaluation of 1997-98 participants. (The ESD wage file includes 85 to 90 percent of the employment in Washington; the major exclusion is self-employment.) The median hourly wage for this group was $12.88 during the third quarter after leaving the program. Just over half (52 percent) of the 1999-00 participants were dislocated from manufacturing jobs — 13 percent from the lumber/wood/paper industries, 10 percent from computer manufacturing, and 11 percent from the aircraft industry. After leaving the program, only 17 percent returned to the

FIGURE 4.
Support Service Needs of JTPA Title III Dislocated Workers

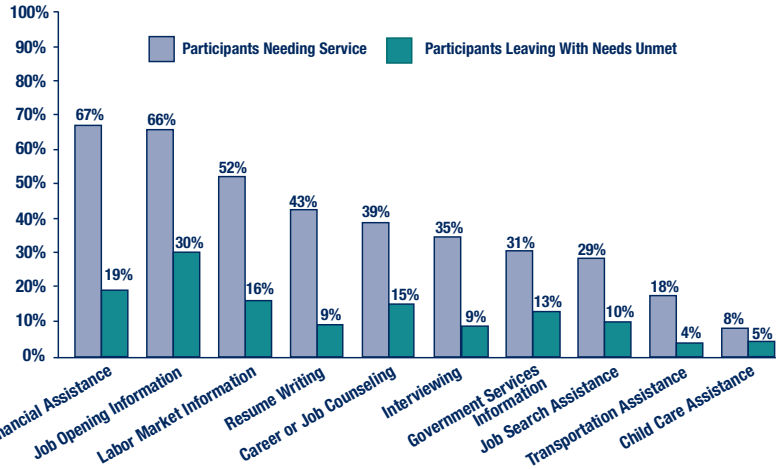


FIGURE 5.
Employer Satisfaction With New Employees Who Had Recently Completed a JTPA Program

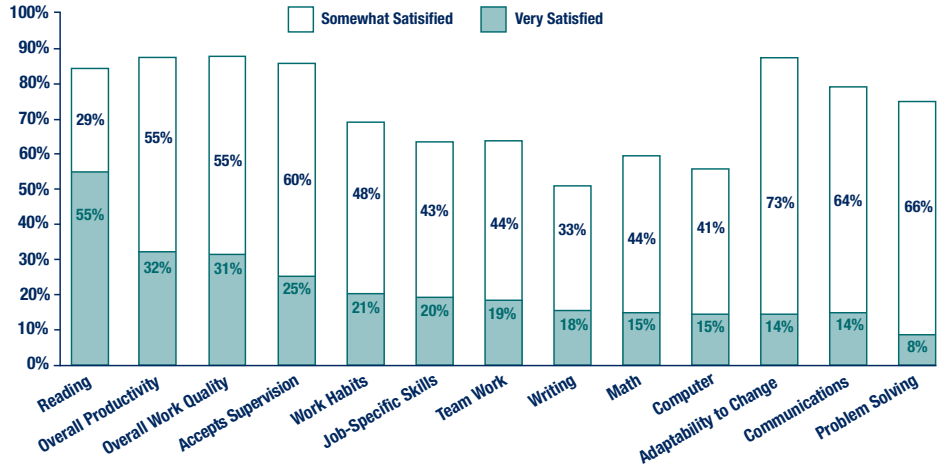


FIGURE 6.
Employment and Earnings of JTPA Title III Dislocated Worker Program Participants in the Third Quarter After Leaving Program

	1995-96	1997-98	1999-00
Percentage self-reporting employment during third quarter after leaving program	81%	83%	83%
Percentage with employment reported by employers to ESD the third quarter after leaving program	74%	74%	75%
Median quarterly hours worked, of those working	493	484	495
Percentage employed full-time of those working (averaging 30 or more hours/week)	75%	67%	70%
Median annualized earnings of those working	$27,079	$23,777	$24,075
Size of household in which median earnings would support at poverty level	7.1	6.0	6.1
Size of household in which median earnings would support at twice poverty level	2.6	2.1	2.1
Median hourly wage of those working	$14.42	$12.71	$12.88
Percentage self-reporting receipt of medical benefits from employer	68%	68%	72%
Percentage self-reporting receipt of pension benefits from employer	38%	42%	40%

Notes: Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

manufacturing sector—and only 1 percent found jobs in the aircraft industry. During the third quarter after leaving the program, 39 percent were employed in services and 16 percent in trade.

The median wage of former participants is high, but there is considerable variation in wages. While one quarter earned more than $17 an hour, another quarter had jobs that paid less than $10 an hour. The distribution of wages received by former job preparatory students was:

	Hourly Wage
Lowest 25%	Below $9.80
Second 25%	$9.80 – $12.88
Third 25%	$12.89 – $16.83
Highest 25%	Above $16.83

The earnings of former participants varied by gender and race-ethnicity. During the third quarter after exit, the median wage for women was 80 percent that of men. The median hourly wage for Hispanics was 81 percent that of whites, and for Asian/Pacific Islanders it was 84 percent that of

whites. Note that these gender and racial-ethnic earnings differences are characteristic of the general labor market.

Earnings and employment outcomes also varied by disability status. Administrative records suggest that 6 percent of the participants included in this study had a disability. These participants were less likely to have employment reported to ESD during the third quarter after exit (68 versus 76 percent). Among those working, the median hourly wage rate of those with a disability was 94 percent that of those without a disability. These participants were also less likely to work full-time (67 versus 73 percent), and their median earnings were 93 percent that of those with no reported disability.

The third quarter after they left the JTPA Title III program, the typical (median) participant had sufficient earnings to support 6.1 persons above the poverty level. Using a higher income standard, the typical participant earned enough to support 2.1 persons at a family wage of twice the poverty level.

According to the survey responses, 72 percent of participants employed nine months after the program had health benefits provided by their employer and 40 percent received pension benefits.

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to participants after they leave the program (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these participants as compared to what would have happened if they had not attended the program. The objective is to determine the short-term and long-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the program were compared to individuals who had similar characteristics, but who didn't. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

The JTPA III program increases the longer-term earnings of participants, due to positive effects on employment rates and hours worked.

Figure 7 shows the short-term net impacts of the JTPA III program. During the third quarter after the 1999-2000 participants left training, there were positive effects on employment and hours worked, but hourly wages and earnings were not increased. Also, the program apparently had a small, positive impact on social welfare receipt among these participants. The short-term results for those leaving the program during 1997-98, however, were somewhat stronger. There was a larger employment impact, the earnings impact was positive, and the impact on social welfare receipt was negative.

The longer-term net impacts of training are also shown in Figure 7. These are the impacts observed 8 to 11 quarters after participants left the program during 1997-98. The strong, positive impact on employment for this cohort persists in the longer-term, and there is a substantial earnings effect. Moreover, training is associated with reduced receipt of food stamps and medical benefits.

FIGURE 7.
Short- and Longer-Term Net Impacts
Results for JTPA Title III Dislocated Workers Who Left The Program During PY 1997-98 or PY 1999-2000

	Short-Term 1999-00 Exiters	Short-Term 1997-98 Exiters	Longer-Term 1997-98 Exiters
Employment: percentage in reported employment	2.2%	7.5%	7.3%
Mean Hourly Wage: of those working	–$1.30	–$0.47*	–$0.08*
Mean Hours Worked: per quarter for those working	17.0	19.6	26.6
Mean Quarterly Earnings: of those working	–$397	$234	$466
TANF**: percentage receiving aid	1.2%	-0.7%	–0.4%*
Food Stamps: percentage receiving	1.6%	-1.6%	–1.6%
Medical Benefits: percentage receiving	2.2%	-2.2%	–2.5%
Unemployment Insurance: percentage receiving			0.2%*

Short-term refers to impacts observed in the third quarter after leaving the program.
Longer-term refers to impacts observed 8 to 11 quarters after leaving the program.
* Not statistically significant at the 0.10 level.
**Temporary Assistance for Needy Families (TANF)

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.[3] Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 1997-98, because a longer- term follow-up is required for this analysis.

Projected beneficial impacts on lifetime earnings more than offset the relatively high foregone earnings of program participants, and participant benefits far outweigh public costs.

For each participant in the program, the public (taxpayer) cost is almost $2,600 over the length of their enrollment, and the participant cost is $12,175 in foregone earnings (Figure 8). During the first two-and-a-half years after leaving JTPA III, the average participant will gain $4,333 in earnings. During the course of working life to age 65, the average participant will gain about $63,000 in net earnings (earnings minus foregone earnings) and over $15,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training. The ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is about $78,000 to $2,600, or 30 to 1.

[3] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

FIGURE 8.
Benefits and Costs of JTPA Title III for Dislocated Workers

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Earnings	$4,333		$75,293	
Employee Benefits	$867		$15,059	
Taxes	-$1,090	$1,090	-$18,936	$18,936
UI Benefits	$526	-$526	-$1,827	$1,827
TANF Benefits*	-$97	$97	-$217	$217
Food Stamp Benefits	-$39	$39	$45	-$45
Medical Benefits	-$87	$87	-$311	$311
Foregone Earnings	-$12,175		-$12,175	
Program Costs		-$2,575		-$2,575
TOTAL	-$7,762	-$1,788	$56,931	$18,671

*TANF benefits reflect the value of cash grants, childcare, and other client support services.

The total public (taxpayer) costs is less than the program costs because the training is associated with decreased state welfare expenditures and increased tax revenues. From the time of leaving training to age 65, the public is forecast to save almost $2,300 in welfare and unemployment insurance costs. Moreover, the public is expected to gain almost $19,000 per participant in additional social security, Medicare, federal income, and state sales taxes—far greater than the program costs.

Areas for Improvement

This evaluation found JTPA Title III to have several areas of strength. Three quarters of the participants received specific job skills training, and most said that this training substantially improved their skills. Participants were generally satisfied with the program and achieved relatively high postprogram employment rates and earnings. Moreover, the net impact analysis suggests that the program substantially increases earnings in the longer-term, due to positive effects on employment and hours worked.

There are, however, areas for improvement. Participant satisfaction with advice on program selection is relatively low, and substantial numbers report an unmet need for information about job openings.

The wages of former participants differ by gender and race-ethnicity. Women earn less than men, and Hispanics and Asian/Pacific Islanders earn less than whites. The program might do more to eliminate gender and racial-ethnic differences in the labor market outcomes. There should also be efforts to improve labor market outcomes for participants with disabilities.

Adult Basic Skills Education

This report covers Adult Basic Skills Education provided at the community and technical colleges. There are other providers of basic skills instruction, such as community-based organizations, but the colleges provide such instruction for the majority of adult students in the state. The report is also limited to adults who identified employment-related reasons for enrolling in basic skills courses and who proceeded to take only basic skills courses at the colleges.[1] Those who took basic skills courses for nonemployment-related reasons are not included.

Adult Basic Skills Education includes courses in four categories:

1. Adult Basic Education provides remediation in reading, writing, and mathematics for adults whose skills are at or below the eighth grade level.

2. English-as-a-Second Language provides non-transfer level instruction at competency levels ranging from beginning to advanced.

3. GED Test Preparation provides instruction in basic academic skills beyond adult basic education for those students whose goal is to pass the high school equivalency examination.

4. High School Completion provides instruction in high school courses for adults who want to earn an adult high school diploma.

For this study, participant records were obtained for 13,018 adults who left an Adult Basic Skills program during the 1999-2000 school year and did not return to a community or technical college for at least a year. Their median length of enrollment was three months. The study also includes information from Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. In addition, 95 former students completed a telephone survey, providing additional data on employment and their satisfaction with the training. Survey responses from 192 firms that hired new employees who recently received in adult basic skills instruction provide information on employer satisfaction with the skills of these individuals.

Participant Characteristics

Adult Basic Skills students are more diverse and have less education than the general state population. Fifty-three percent of the Adult Basic Skills students were people of color (compared to 21 percent of the state population).[2] Twenty-seven percent were Hispanic and 14 percent were Asian/Pacific Islander (Figure 1). Not surprisingly, over half had not graduated from high school.

Fifty-four percent of participants were female. The median age, when leaving college, was 29 years. Thirty-nine percent were 25 or younger; 29 percent were age 36 or older.

[1] Individuals who took vocational courses in addition to basic skills are included in the chapter on community and technical college job preparatory training. This chapter does, however, present net impact estimates for concurrent basic skills and job preparatory training.

[2] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. The racial composition figures depend upon how multiracial residents are counted. If those reporting more than one race are included, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, under 2 percent are Native American, and 6 percent Asian/Pacific Islander.

FIGURE 1.
Characteristics of Adult Basic Skills Students: Race and Ethnicity

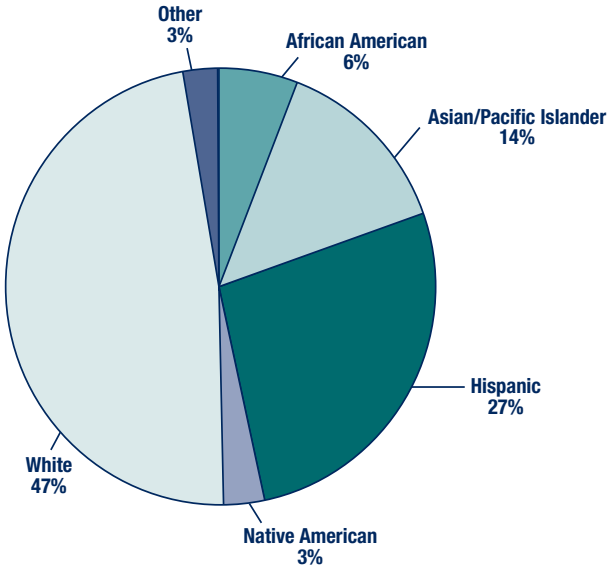
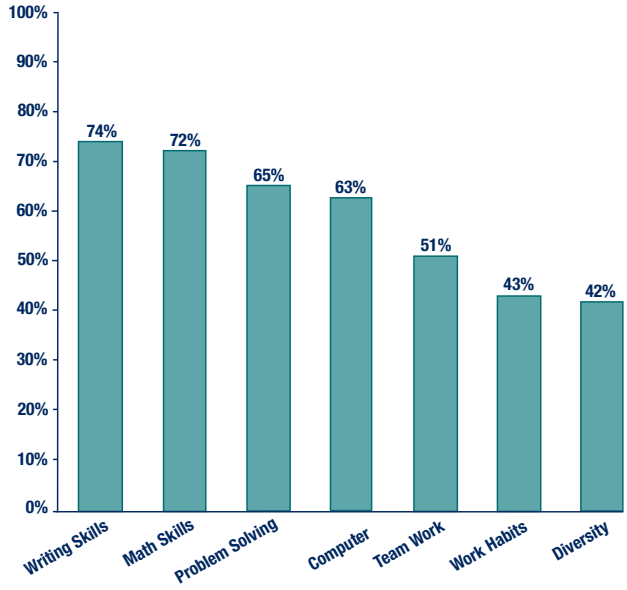


FIGURE 2.
Adult Basic Skills Program Participants Receiving Specific Skills Training



Competency Gains

Based on the survey results, 82 percent of participants entered the program to gain more confidence in their basic skills; over half said that one of their reasons for enrolling was to get a GED. When surveyed, 74 percent said they received instruction in writing, 72 percent received instruction in math, and 63 percent received instruction in using computers, up from 31 percent reported two years ago (Figure 2). Over half of the students who reported receiving instruction in these areas said their skills improved a lot (Figure 3).

FIGURE 3.
Adult Basic Skills Participants Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot

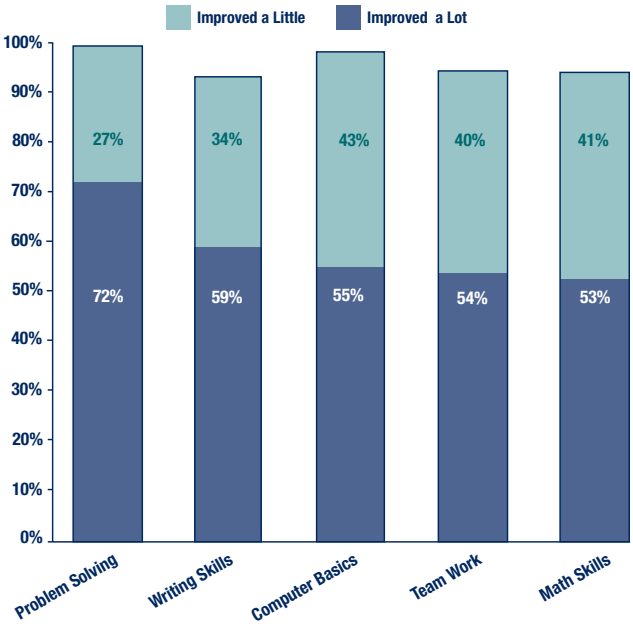


FIGURE 4.
Support Service Needs of Adult Basic Skills Students

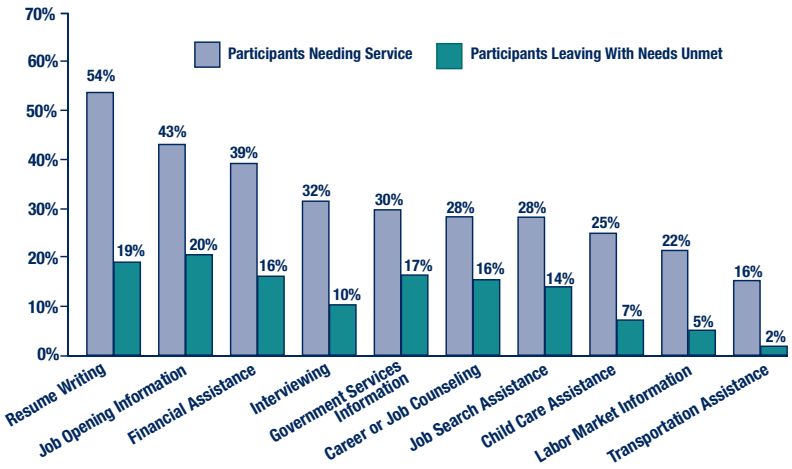
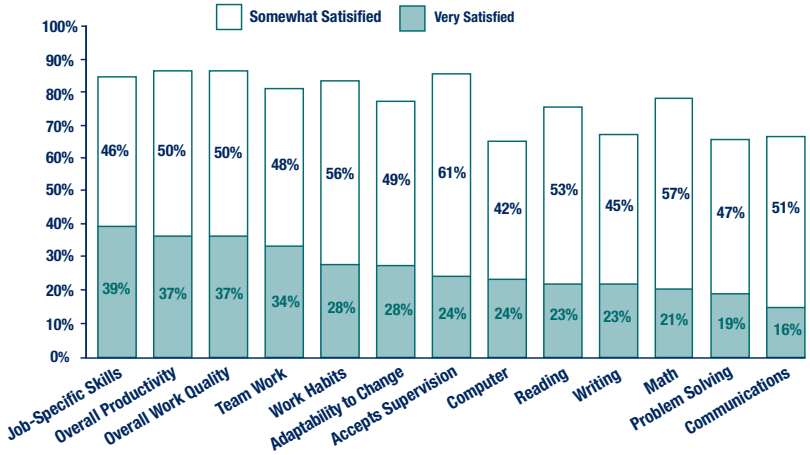


FIGURE 5.
Employer Satisfaction With New Employees Who Had Recently Participated in an Adult Basic Skills Program



Participant Satisfaction

In general, students said they were satisfied with the training they received. Ninety-five percent of former students reported being satisfied with their basic skills instruction overall, and 87 percent stated that they had met their educational objectives. The students were more likely to say, however, that their objectives were partially met (48 percent) than definitely met (39 percent). Satisfaction with the quality of teaching, training facilities, and length of training ran at 90 percent or higher.

When asked about support services, students reported most frequently needing help with resume writing (54 percent), information on job openings (43 percent), and financial assistance (39 percent). According to survey responses, 16 to 20 percent of participants left the program with their needs in these areas unmet (Figure 4).

Employer Satisfaction

The employer survey asked firms to evaluate new employees who had recently completed an Adult Basic Skills Education program. Eighty-seven percent of employers stated they were satisfied with the overall productivity and quality of work of these new employees—only about a third, however, said they were very satisfied (Figure 5). Employers tended to be least satisfied with the reading, writing, math, and communication skills, and the problem-solving abilities of these workers.

Employment and Earnings

According to the survey responses, 62 percent of the 1999-2000 Adult Basic Skills students were employed during the period six to nine months after leaving their program (Figure 6). To find out more about the former students' postprogram employment and earnings, we matched student records with ESD wage files. These files contain information only on those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of the total employment in state, with self-employment being the largest type of employment not covered).

According to ESD record matches, 60 percent of Basic Skills students had reported employment during the third quarter after they left the program. This is about the same percentage as reported two years ago. Based on record matches, the median wage for these students six to nine months after they left the program was $9.25 per hour.

The third quarter after they left the colleges, the typical (median) participant had sufficient earnings to support a household of 3.2 persons above the poverty level. Using a higher income standard, the typical participant earned enough to support about one person at a family wage of twice the poverty level.

According to the survey responses, 45 percent of those employed nine months after their training had health benefits provided by their employer, and 29 percent had pension benefits.

Among former participants employed during the third quarter after exit, there was a substantial gender gap in earnings. The median wage for women was 87 percent that of men. People of color tended to receive hourly wage rates that were equal to or greater than whites. The median earnings of Native American participants, however, was only 89 percent that of whites.

FIGURE 6.
Employment and Earnings of Adult Basic Skills Students in the Third Quarter After Leaving Program

	1995-96	1997-98	1999-00
Percentage self-reporting employment during third quarter after leaving program	59%	82%	62%
Percentage with employment reported by employers to ESD the third quarter after leaving program	49%	62%	60%
Median quarterly hours worked, of those working	419	452	433
Percentage employed full-time of those working (averaging 30 or more hours/week)	54%	57%	57%
Median annualized earnings of those working	$13,011	$15,854	$15,317
Size of household in which median earnings would support at poverty level	2.5	3.4	3.2
Size of household in which median earnings would support at twice poverty level	0.8	0.9	0.9
Median hourly wage of those working	$8.09	$8.92	$9.25
Percentage self-reporting receipt of medical benefits from employer	52%	63%	45%
Percentage self-reporting receipt of pension benefits from employer	37%	35%	29%

Notes: Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

According to administrative records, 4 percent of the Adult Basic Skills students leaving college during 1999-2000 had a disability. They did less well in the labor market than their fellow students. They were less likely to have employment reported to ESD (50 percent versus 61 percent), they worked fewer hours during the third quarter after exit (a median of 328 versus 436), their median hourly wage was 92 percent, and median earnings 70 percent that of students without a disability.

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to participants after they leave the colleges (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these participants as compared to what would have happened if they did not receive Adult Basic Skills Education. The objective is to determine the short-term and long-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who enrolled in the program were compared to individuals who had similar characteristics, but who didn't participate in it. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

Due to long-term impacts on employment, the program was found to increase total lifetime earnings. Among those working, the study found no positive impact on hourly wages or earnings.

Figure 7 shows the short-term impacts of the program. During the third quarter after the 1999-2000 participants left training, no positive net impacts on employment or earnings were found. Program participation was associated with substantial increases in social welfare benefits receipt.

The longer-term net impacts are also shown in Figure 7. Again, there were no positive impacts found on the hourly wages or earnings of those working. There was, however, a modest net impact on employment. Increases in social welfare benefit receipt were more moderate in the longer-term.

The results discussed above are for Adult Basic Skills students who did not receive any other type training. The data also permitted the study to examine the outcomes for Basic Skills students who also received concurrent job preparatory training.[3] Figure 8 shows the short-term and longer-term impacts of such training.

FIGURE 7.
Short- and Longer-Term Net Impacts
Results for Adult Basic Skills Students Who Left The Program During PY 1997-98 and 1999-2000

	Short-Term Impacts	Longer-Term Impacts
Employment: percentage in reported employment	–5.2%	1.6%
Mean Hourly Wage: of those working	$0.28*	–$0.20
Mean Hours Worked: per quarter for those working	–48.8	–4.9*
Mean Quarterly Earnings: of those working	–$613	–$43*
TANF**: percentage receiving aid	20.9%	7.6%
Food Stamps: percentage receiving	18.2%	6.7%
Medical Benefits: percentage receiving	19.4%	8.4%
Unemployment Insurance: percentage receiving		–2.1%

Short-term refers to impacts observed in the third quarter after leaving the program during the 1999-2000 school year.

Longer-term refers to impacts observed 8 to 11 quarters after leaving the program during the 1997-98 school year.

* Not statistically significant at the 0.10 level.
** Temporary Assistance for Needy Families (TANF)

[3] These students received basic skills instruction either the quarter before or during their job preparatory training.

Pursuing job preparatory training concurrently with basic skills training results in much stronger labor market outcomes.

Concurrent training was associated with a short-term increase of 5.3 percentage points in employment as reported to the ESD, and a longer-term increase of 7.2 percentage points. Among those with reported employment, there were substantial positive impacts on hours worked. There were also large impacts on mean quarterly earnings—$543 in the short-term and $533 in the longer-term. Note that these impacts are the differences between participant results and the employment and earnings of similar individuals who did not participate in the program.

FIGURE 8.
Concurrent Basic Skills and Job Preparatory Training Short-Term and Longer-Term Net Impacts

	Short-Term Impacts	Longer-Term Impacts
Employment: percentage in reported employment	5.3%	7.2%
Mean Hourly Wage: of those working	$0.29*	$0.51*
Mean Hours Worked: per quarter for those working	23.6	25.5
Mean Quarterly Earnings: of those working	$543	$533
TANF: percentage receiving aid	1.2%	–0.0%*
Food Stamps: percentage receiving	1.4%	0.4%*
Medical Benefits: percentage receiving	3.2%	1.5%*
Unemployment Insurance: percentage receiving		0.1%*

Basic skills training occurred the quarter before or during the job preparatory training span.

Short-term refers to impacts observed in the third quarter after leaving the program during the 1999-2000 school year.

Longer-term refers to impacts observed 8 to 11 quarters after leaving the program during the 1997-98 school year.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.[4] Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 1997-98, because a longer- term follow-up is required for this analysis. The results are for those students who took only Adult Basic Skills courses in the colleges.

For each participant in Adult Basic Skills Education, the public (taxpayer) cost is $983 over the length of their enrollment, and the participant cost is only $278 in foregone earnings while in school (Figure 9). During the first two-and-a-half years after leaving college, the average trainee will gain $660 in earnings. During the course of working life to age 65, the average trainee will gain about $4,985 in net earnings (earnings minus foregone earnings) and over $1,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training. The ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is $6,038 to $983, or 6 to 1. The public is expected to gain roughly $1,300 per participant in additional social security, Medicare, federal income, and state sales taxes.

[4] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

FIGURE 9.
Benefits and Costs of Adult Basic Skills Education

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Earnings	$660		$5,263	
Employee Benefits	$132		$1,053	
Taxes	-$166	$166	-$1,324	$1,324
UI Benefits	$41	-$41	-$3,160	$3,160
TANF*	$861	-$861	$228	-$228
Food Stamps	$346	-$346	$460	-$460
Medical Benefits	$315	-$315	$1,130	-$1,130
Foregone Earnings	-$278		-$278	
Program Costs		-$983		-$983
TOTAL	$1,911	-$2,380	$3,372	$1,683

*TANF benefits reflect the value of cash grants, childcare, and other client support services.

Areas for Improvement

Much of this evaluation considered Adult Basic Skills students at community and technical colleges who enrolled for a work-related reason and did not also participate in vocational training. Students in Adult Basic Skills instruction tended to be less educated and poorer than other community and technical college students. These programmatic and demographic limitations should be taken into account when considering the results.

Overall, the survey responses suggest that most students were satisfied with the program and most met their educational objectives. Students were more likely to say, however, that their objectives were partially met than definitely met. Perhaps the length of training, which is short for many participants, should be increased.

Student survey responses also show a need for wider access to support services. Many participants left the program with unmet needs for assistance in resume writing and information on job openings.

Wage and earnings outcomes were substantially lower for women than men. These and employment outcomes were also lower for people with disabilities. The program should do more to improve labor market outcomes for women and people with disabilities.

According to the net impact analysis, due to long-term effects on employment, the program does increase total lifetime earnings. Among those working, however, the study found no positive impacts on hourly wages or earnings. These results are for Adult Basic Skills students who did not receive any other type of training. Pursuing job preparatory training concurrently with basic skills training was found to have much stronger impacts on labor market outcomes—larger impacts on employment and substantial positive impacts on earnings. More should be done to integrate work skills training in Adult Basic Skills instruction.

Job Training Partnership Act Title II-A for Adults[1]

The Job Training Partnership Act (JTPA) Title II-A program served economically disadvantaged adults, age 22 and older, who experienced significant barriers to school or employment. Though the program targeted low-income adults, up to 10 percent of Title II-A participants could exceed the low income criteria if they had other barriers, including low levels of literacy, dropping out of high school, a criminal record, or receipt of public assistance. When considering the outcomes of JTPA Title II-A participants it is important to remember that the program targeted low-income populations.

JTPA Title II-A offered participants a variety of training and employment-related services. Participants may have been given specific occupational training, basic skills instruction, and job search assistance such as career counseling, resume preparation, and job referrals. Occupational training occurred either at a training institution, such as a community or technical college or a private vocational school, or at a worksite. JTPA services were often part of a package of employment and other services that assisted an individual and that drew on multiple funding sources. The programs were often of relatively short duration; the median length of participant enrollment was five-and-a half months.

The Employment Security Department (ESD) administered the program at the state level. It was administered by 12 service delivery areas at the local level. A Private Industry Council, who either provided services directly or purchased services from other providers in partnership with local elected officials, headed each service delivery area.

For this study, participant records were obtained on 2,508 adults who left the program during the 1999-2000 program year (July 1, 1999, to June 30, 2000). Employment-related information was obtained through a match with the unemployment insurance wage files for those participants with employment reported to the ESDs in Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included.[2] In addition, 910 former participants responded to a telephone survey, providing additional information on employment, training, and satisfaction with the program. Employer satisfaction was assessed through survey responses from 189 firms that hired employees who recently completed a JTPA program.

Participants who received JTPA Title II-A assessment services but did not participate in other program activities were not included in the findings.

Participant Characteristics

Participants in JTPA Title II-A were more likely to be a member of a racial or ethnic minority group, female, and have less education than the state general population. Among those leaving the program during the 1999-2000 program year, 32 percent were people of color (Figure 1).[3] Sixty-two percent were women. The typical (median) age when leaving the program was 35; roughly a third of the participants were less than 30 years of age, and another third were over 40.

Eighteen percent had neither a high school diploma nor GED. Twenty-seven percent had criminal records, and 12 percent had a history of substance abuse.

FIGURE 1.
Characteristics of JTPA Title II-A Adult Participants: Race and Ethnicity

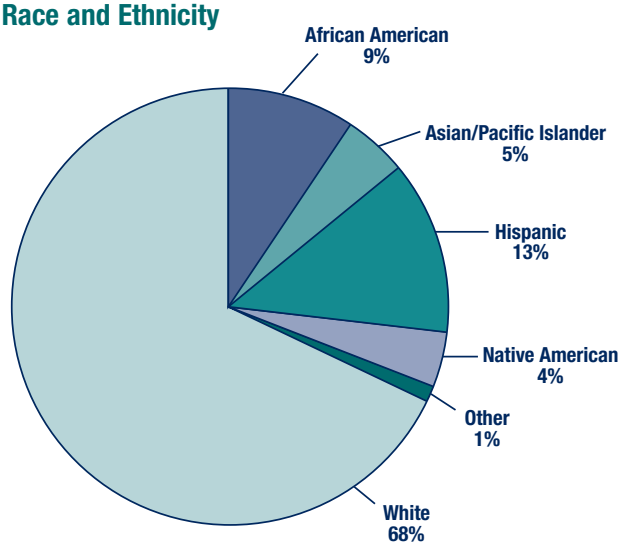


FIGURE 2.
JTPA Title II-A Adult Participants Receiving Specific Skills Training

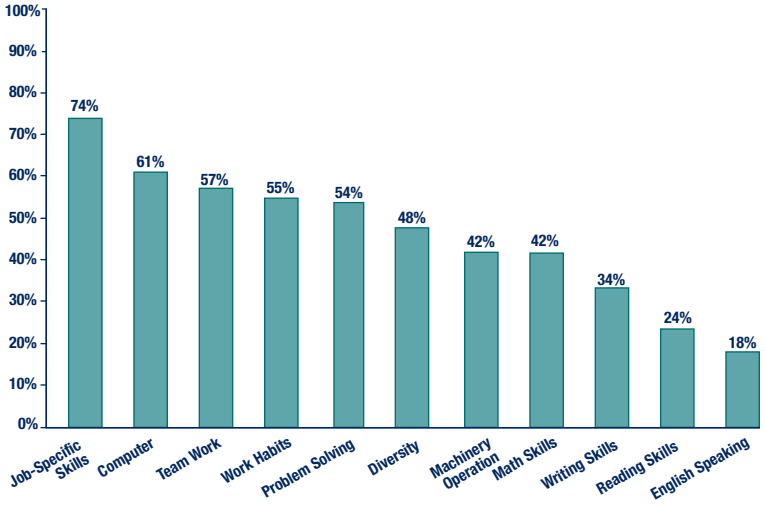
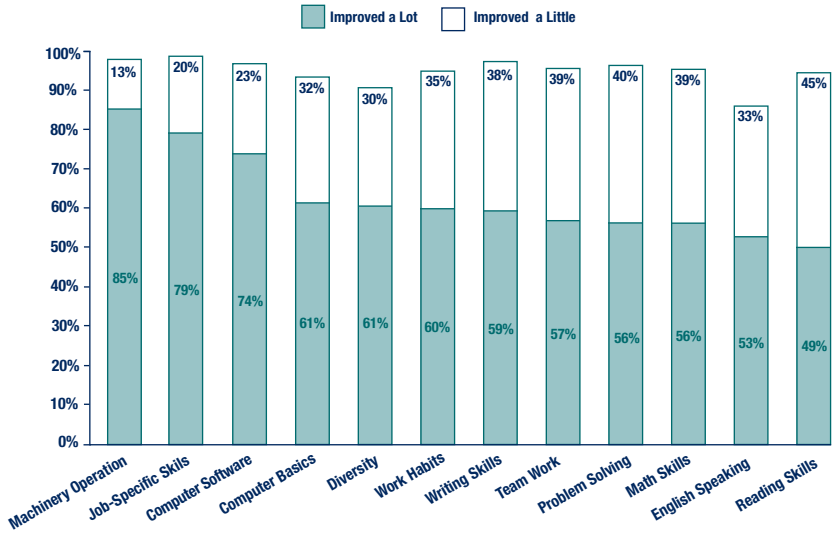


FIGURE 3.
JTPA II-A Adult Participants Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot



Competency Gains

Based on survey results, 88 percent of JTPA Title II-A participants entered the program in order to learn skills for a new job, and 73 percent enrolled to get job search assistance. Over half of the participants (62 percent) said that one of their purposes was to gain confidence in basic skills, such as math and reading.

The majority of participants reported they received occupational or workplace training such as: skill training for a specific job, computer training, team work, and work habits (Figure 2). However, as was the case in our last two reports, fewer than half of the participants indicated that they had received instruction in basic skills (42 percent received math instruction, 24 percent received reading instruction, and 34 percent received training in writing).

Overall, the JTPA Title II-A participants who received training generally felt that it improved their skills (Figure 3). The percentage reporting substantial skill improvement was highest for occupational training (machinery operation and job-specific skills) and lowest for basic skills (math, English speaking, and reading skills). Among those employed nine months after leaving training, 69 percent said their training was related to that job.

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[1] This report is based upon Job Training Partnership Act (JTPA) programs in place during the time period July 1, 1999, to June 30, 2000. On July 1, 2000, the Workforce Investment Act (WIA) replaced JTPA.

[2] The Washington State Employment Security wage files contain information on 85 to 90 percent of employment in the state.

[3] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise of the state's population. The racial composition figures depend upon how multiracial residents are counted. If those reporting more than one race are included, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, under 2 percent are Native American, and 6 percent Asian/Pacific Islander.

Participant Satisfaction

Survey results indicate that the participants were generally satisfied with the program. Eighty-eight percent of participants reported they were satisfied with the overall quality of the program. Eighty-five percent said their educational objectives had been met (53 percent said definitely met; 32 percent partially met).

As stated above, JTPA Title II-A offered participants a variety of employment-related services in addition to basic skills and occupational training. Based on the survey results, most of the participants who needed employment and support services received assistance in these areas. Participants most frequently reported needing assistance with information on job openings, financial assistance, resume writing, and labor market information (Figure 4). Most of those needing these services received them. The largest unmet needs were for information about job openings (21 percent) and financial assistance (18 percent).

Employer Satisfaction

It was not feasible to survey employers about each of the JTPA programs included in the study (Titles II-A, II-C, and III) separately because there were too few individuals coming out of each program for a sufficient percentage of employers in the state to have had experience employing recent participants. Employers were instead asked about workers who had been trained by JTPA. This section presents findings on employer satisfaction with new employees who completed any type of JTPA program.

Overall, the results indicate that the majority of employers were satisfied with the quality and productivity of these workers. Eighty-six percent of employers said they were either somewhat or very satisfied with the overall quality of work of these new employees, and 87 percent were satisfied with the workers' overall productivity (Figure 5).

Employers tended to be more satisfied with general workplace skills (e.g., adaptability to change and ability to accept supervision) and less satisfied with job-specific skills. The lowest levels of reported satisfaction were with writing, math and computer skills.

FIGURE 4.
Support Service Needs of JTPA Title II-A Adult Participants

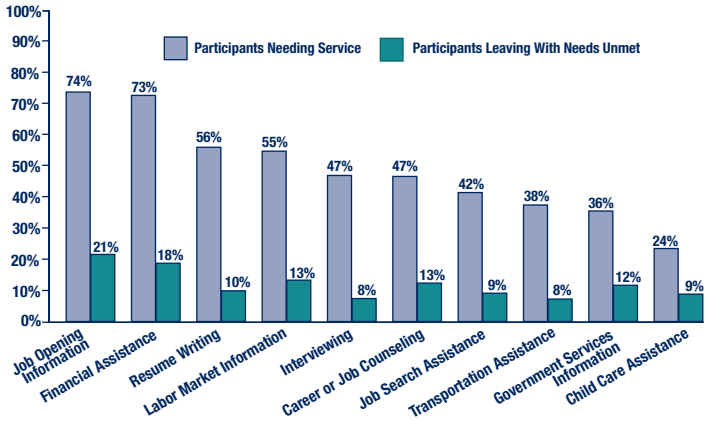
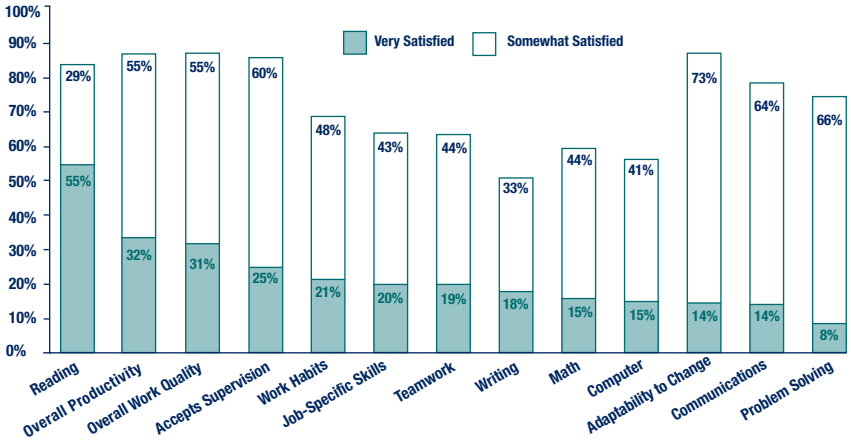


FIGURE 5.
Employer Satisfaction With New Employees Who Had Recently Completed a JTPA Program



Employment and Earnings

Eighty-three percent of the 1999-2000 JTPA Title II-A participants reported being employed during the period six to nine months after the program (Figure 6). To find out more about the former students' postprogram employment and earnings, we matched student records with Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included in the match. These files contain information only on those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of the total employment in state, with self-employment being the largest type of employment not covered).

Sixty-seven percent had employment reported in ESD wage files during the third quarter after leaving the program. Their median wage was $9.72 per hour; one fourth earned less than $7.95 an hour, and another quarter earned more than $12.42. Median annualized earnings were $15,523. The typical (median) participant had sufficient earnings to support a household of 3.3 persons above the poverty level.

According to the survey responses, 65 percent of those employed during the third quarter after exit had health benefits provided by their employer, and 31 percent received pension benefits.

Earnings varied by gender and race-ethnicity. Among former participants employed during the third quarter after leaving the program, the hourly wage rate for women was 85 percent that of men. The wage differentials by race-ethnicity were more modest. Hispanics had the lowest median wage (10 percent less than whites), followed by Native Americans (5 percent less than whites).

Outcomes also varied by disability status. Administrative records suggest that 19 percent of the JTPA Title II-A participants included in this study had a disability. These participants were less likely to have employment reported to ESD (59 versus 69 percent). The median hourly wage rate of those with a disability was 91 percent that of those with no disability. People with a disability tended to work fewer hours per quarter (a median of 393 versus 427), and their median earnings were 87 percent that of those without a disability.

FIGURE 6.
Employment and Earnings of JTPA Adult Participants in the Third Quarter After Leaving Program

	1995-96	1997-98	1999-00
Percentage self-reporting employment during third quarter after leaving program	81%	79%	83%
Percentage with employment reported by employers to ESD the third quarter after leaving program	61%	71%	67%
Median quarterly hours worked, of those working	397	429	424
Percentage employed full-time of those working (averaging 30 or more hours/week)	51%	54%	53%
Median annualized earnings of those working	$12,615	$15,340	$15,523
Size of household in which median earnings would support at poverty level	2.3	3.2	3.3
Size of household in which median earnings would support at twice poverty level	0.7	0.9	0.9
Median hourly wage of those working	$8.26	$9.25	$9.72
Percentage self-reporting receipt of medical benefits from employer	51%	53%	65%
Percentage self-reporting receipt of pension benefits from employer	23%	29%	31%

Notes: Earnings and wages are expressed in first quarter 2001 dollars.
Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to participants after they leave the program (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these participants as compared to what would have happened if they did not enroll in the program. The objective is to determine the short-term and longer-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the program were compared to individuals who had similar characteristics, but who didn't participate in it. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

The program increased earnings among disadvantaged adults, especially in the longer-term, by increasing employment, hours worked, and hourly wages.

Figure 7 shows the short-term net impacts of the JTPA Title II-A. During the third quarter after the 1999-2000 participants left the program, there was a positive net impact on employment. Among those with reported employment, however, the impacts on wage rates and hours worked were not statistically significant, and there were positive short-term impacts on social welfare receipt.

The short-term impacts were stronger for those leaving the program during 1997-98. The positive impacts on employment, hours worked, and earnings were larger and statistically significant. Moreover, program participation reduced short-term reliance on public assistance (Figure 7).

The longer-term net impacts are also stronger (Figure 8). These are the impacts observed 8 to 11 quarters after participants left the colleges during the 1997-98 program year. Program participation is associated with a 7.4 percentage point increase in employment. The program also has positive long-term impacts on hourly wages, hours worked, and earnings. Program participation was found to reduce receipt of social welfare benefits in the longer-term.

JTPA Title II-A offered participants a variety of services, and not all participants received training. The participants who received training[4] at community and technical colleges experienced even more positive wage and earnings outcomes (Figure 8).

FIGURE 7.
Short-Term Net Impacts

Results for JTPA Title II-A Adults Who Left the Program During PY 1999-2000 or 1997-98

	1999-2000 Exiters	1997-98 Exiters
Employment: percentage in reported employment	3.6%	10.9%
Mean Hourly Wage: of those working	-$0.02*	$0.65*
Mean Hours Worked: per quarter for those working	7.6*	23.0
Mean Quarterly Earnings: of those working	$105*	$393
TANF**: percentage receiving aid	4.6%	-12.6%
Food Stamps: percentage receiving	8.0%	-10.0%
Medical Benefits: percentage receiving	9.3%	-8.4%

Short-term refers to impacts observed in the third quarter after leaving the program.
* Not statistically significant at the 0.10 level.
** Temporary Assistance for Needy Families (TANF)

[4] This includes job preparatory training, worker retraining, and work-related basic skills training.

FIGURE 8.
Longer-Term Net Impacts
Results for JTPA Title II-A Adults Who Left the Program During PY 1997-98

	All Participants	Participants trained at Community and Technical Colleges
Employment: percentage in reported employment	7.4%	6.1%
Mean Hourly Wage: of those working	$0.57	$1.03
Mean Hours Worked: per quarter for those working	23.9	23.0*
Mean Quarterly Earnings: of those working	$543	$606
TANF: percentage receiving aid	–6.7%	–9.4%
Food Stamps: percentage receiving	–5.6%	–8.0%
Medical Benefits: percentage receiving	–10.5%	–8.4%
Unemployment Insurance: percentage receiving	4.7%	6.9%

Long-term refers to impacts observed 8 to 11 quarters after leaving the program.
* Not statistically significant at the 0.10 level.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.[5] Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 1997-98, because a longer-term follow-up is required for this analysis.

Lifetime earnings among participants were substantially enhanced. Projected participant benefits to age 65 far outweigh public costs.

For each participant in JTPA Title II-A, the public (taxpayer) cost is $3,384 over the length of their enrollment, and the participant cost is $360 in foregone earnings while enrolled (Figure 9). During the first two-and-a-half years after leaving the program, the average participant will gain $3,773 in earnings. During the course of working life to age 65, they will gain about $61,000 in net earnings (earnings minus foregone earnings) and over $12,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training. The ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is $73,518 to $3,384, or 20 to 1.

[5] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

FIGURE 9.
Benefits and Costs of JTPA Title II-A for Adults

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Earnings	$3,773		$61,565	
Employee Benefits	$755		$12,313	
Taxes	-$949	$949	-$15,484	$15,484
UI Benefits	$486	-$486	-$400	$400
TANF*	-$2,292	$2,292	-$425	$425
Food Stamps	-$413	$413	-$902	$902
Medical Benefits	-$393	$393	-$1,413	$1,413
Foregone Earnings	-$360		-$360	
Program Costs		-$3,384		-$3,384
TOTAL	$607	$177	$54,894	$15,240

*TANF benefits reflect the value of cash grants, childcare, and other client support services.

The total public (taxpayer) costs is less than the program costs because the training is associated with decreased state welfare expenditures and increased tax revenues. From the time of leaving the program to age 65, the public is forecast to save over $3,000 in welfare and unemployment insurance costs for each participant. Moreover, the public is expected to gain over $15,000 per participant in additional social security, Medicare, federal income, and state sales taxes.

Areas for Improvement

JTPA Title II-A served adults who face substantial barriers to employment, and on average, enrollment lasted only five-and-a half months. The relatively low earnings of former participants nine months after leaving the program should be understood in this context. Despite these barriers, the net impact analysis found that the program increases earnings, especially in the longer-term. Projected participant benefits to age 65 far outweigh the public costs of the program. The net impact analysis also found that participants who received training at community and technical colleges experienced the largest positive wage and earnings outcomes. This training should be encouraged.

Most participants were very satisfied with the program and with the services they received. One service with substantial unmet need, however, is information on job openings.

Given the low educational attainment of participants prior to entering the program, and the fact that most listed gaining confidence in basic skills as one of their purposes for enrolling, more should have received basic skills instruction in reading, writing, and math. Relatively few participants reported receiving basic skills training. Among those that did, the percentage reporting substantial skill improvement was relatively low. As noted in prior evaluations, basic skills instruction is most effective when integrated with work and job skills training.

The program might also do more to eliminate gender differences in the labor market outcomes. Efforts to encourage women to enter higher-wage training programs should continue. Wage and earnings outcomes are also lower for program participants with disabilities. The program should continue efforts to improve these outcomes for people with disabilities.

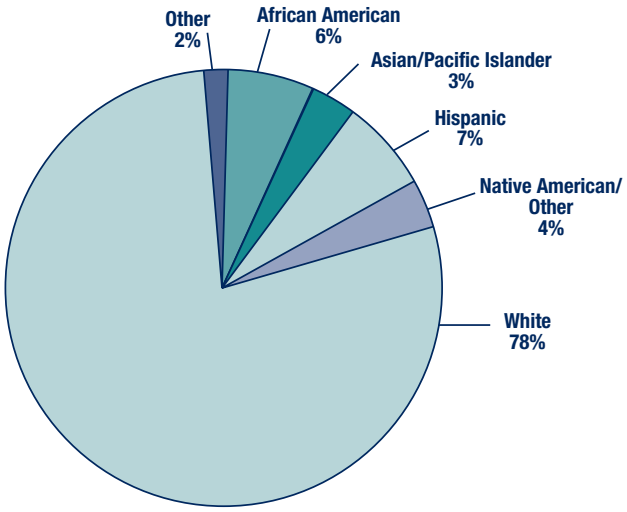
Division of Vocational Rehabilitation

The Division of Vocational Rehabilitation (DVR) offers services to help eligible individuals with disabilities become employed. The primary objective is employment. Depending on the individual and their functional limitations this may include part-time employment, self-employment, homemaking, or supported employment. Services are based on the needs of the individual and include but are not limited to assessment, counseling, vocational, academic, and other training services, physical and mental restoration services, assistant technology, independent living services, mobility and transportation, communication services, and job search and placement.

Eligibility requires certification by DVR that the individual:

- Has a physical, mental, or sensory impairment that constitutes or results in a substantial impediment to employment.
- Can benefit in terms of an employment outcome from the provision of vocational rehabilitation services.
- Requires vocational rehabilitation services to prepare for, enter into, engage in, or retain employment.

FIGURE 1.
Characteristics of DVR Participants: Race and Ethnicity



These strict eligibility requirements should be considered when reviewing the outcomes of former DVR clients.[1] Among the DVR clients included in this study, over half (57 percent) had more than one disability.

The study includes information from administrative records for 5,609 clients who left DVR programs during the 1999-2000 program year.[2] Sixty-eight percent of these participants were classified as rehabilitated upon leaving the program (i.e., they were working for 90 days); up from 64 percent for those leaving DVR programs during 1997-98. The median length of program enrollment was 10.4 months.

This study also collected information from Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. In addition, 213 former clients completed a telephone survey, providing more detailed data on employment and satisfaction with the program.

The clients included in this study left DVR programs prior to the adoption of order of selection. Since the end of 2000, when program funds and staff resources are insufficient to serve all eligible applicants, priority has been given to participants with the most significant disabilities.

Participant Characteristics

The racial and ethnic composition of the 1999-2000 clients roughly reflects that of the general population (Figure 1). About one in five were people of

[1] A net impact analysis was not conducted for DVR because of data constraints. No viable comparison group could be constructed for DVR clients.

[2] Information was also collected on the 5,265 clients who left during the 1997-98 program year.

color, as is the case with all Washington residents.[3] Forty-five percent were women. The median age upon entering the program was 36; a third were under 30 and about a quarter were age 45 or older.

Competency Gains

Based on survey results, most DVR clients enrolled in the program to learn skills for a new job (77 percent) and to get job search assistance (70 percent).[4] About half of clients cited getting on-the-job training and gaining more self-confidence with basic skills as reasons. A third enrolled, at least in part, to get equipment and medical services needed because of their disability.

The survey suggests that 49 percent received job specific training for new jobs, and 27 percent received training to adapt previous job skills to their disability (Figure 2). Note that DVR offers other work-related services in addition to training; for example, some clients receive physical and mental restoration services, assistive technology, and communication services. Twenty to 30 percent received training in general workplace skills such as teamwork or work habits.

Almost all clients who received a particular type of training reported at least some improvement in their skills (Figure 3). The majority (62 percent) who received job-specific training for a new job reported that these skills improved a lot. The relatively low proportion (34 percent) reporting substantial improvement in adapting previous job skills to their disability reflects the extreme difficulty encountered in doing so.

FIGURE 2.
DVR Program Participants Receiving Specific Skills Training

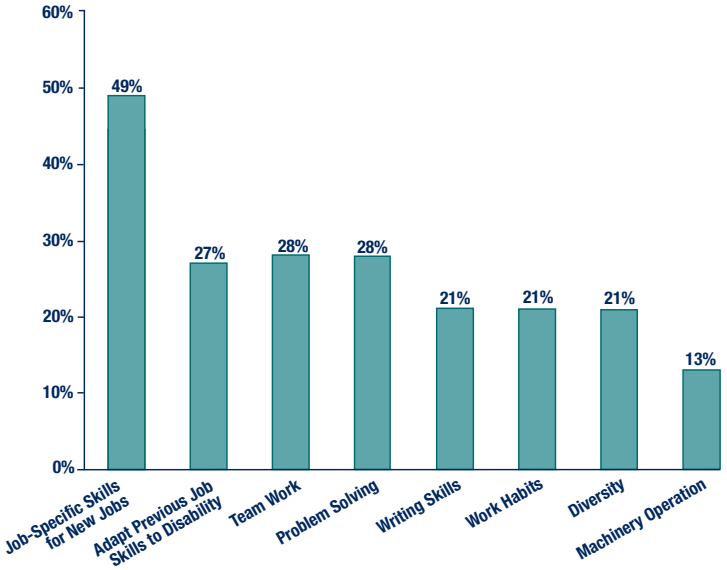
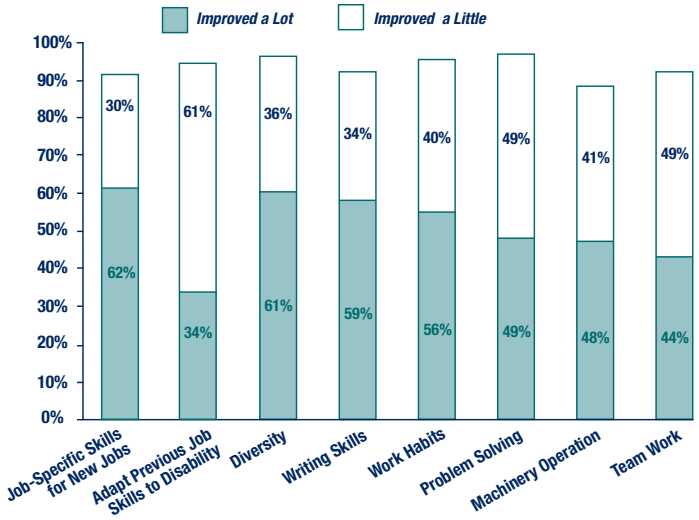


FIGURE 3.
DVR Participants Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot



[3] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. Racial composition figures depend upon how multiracial residents are counted. Including those who report more than one race, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, less than 2 percent are Native American, and 6 percent Asian/Pacific Islander.

[4] Note that respondents could select more than one reason for enrolling in the program.

Participant Satisfaction

Sixty-nine percent of former clients said that they were very or somewhat satisfied with their DVR program. Respondents reported relatively high levels of satisfaction with the location and times services were provided, the facilities, occupational or work equipment used, and opportunities to interact with staff. Satisfaction was lower with respect to advice on choosing services and usefulness of the program to their careers.

Figure 4 lists the support services that clients most frequently said they needed. According to survey results, most clients responded that they needed job counseling (74 percent), financial assistance (64 percent), information about job openings (62 percent), and vocational training (56 percent). As is the case in several other programs, participants report a substantial unmet need for job counseling services and information about job openings. Unmet needs refers to the percentage of clients who said that they needed a service but either did not receive it, or what was received did not meet their needs. About a third of the former clients report an unmet need for computer training.

FIGURE 4.
Support Service Needs of DVR Participants

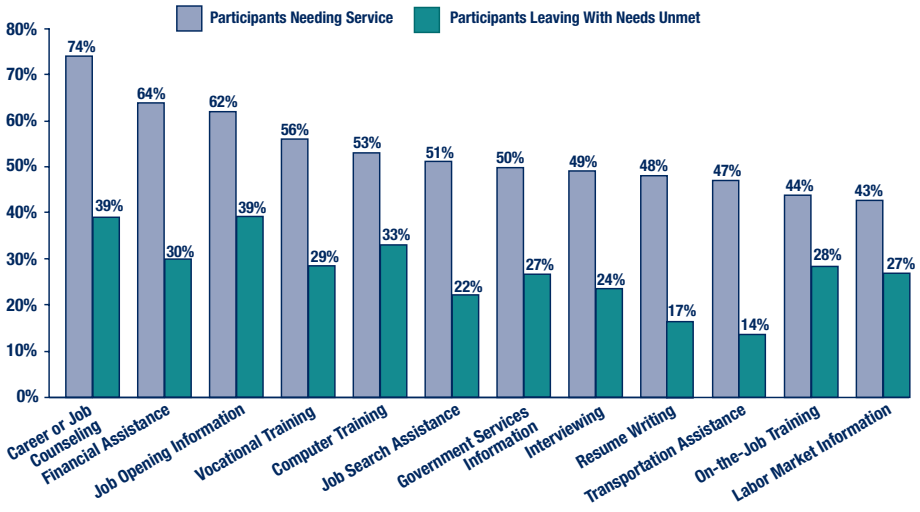
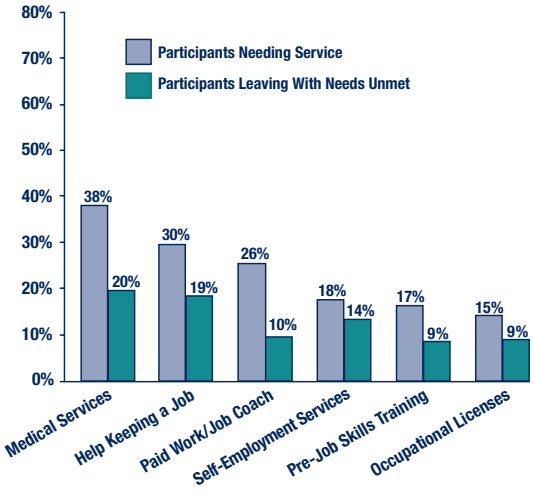


Figure 5 lists other support services, unique to DVR programs, which many clients said they needed. Thirty-eight percent of clients reported a need for medical services. Thirty percent needed help keeping a job, and over a quarter said that they needed paid work where a job coach or other support person works along side or visits regularly. Pre-Job Skills training, required by 17 percent of clients, refers to training in basic workplace skills such as getting to work on time or following directions.

FIGURE 5.
Additional Support Services Needs of DVR Participants



Employment and Earnings

According to the survey responses, 60 percent of the 1999-2000 clients were employed during the period six to nine months after leaving their program. To find out more about the

former clients' postprogram employment and earnings, we matched records with ESD wage files. These files contain information only on those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of the total employment in state, with self-employment being the largest type of employment not covered).

Fifty-seven percent of all 1999-2000 clients had employment reported in ESD wage files during the third quarter after leaving the program (Figure 6). Among those who were considered rehabilitated upon leaving the program (i.e., those who had been working for 90 days), 71 percent had reported employment the third quarter after exit. Again, please note that ESD wage files do not capture some types of employment. These employment rates are virtually the same as those observed for clients leaving the program in 1997-98.

Among all former clients who were working during the third postprogram quarter, the median hourly wage was $9.17; a quarter earned less than $7.50 an hour, and another quarter earned more than $12.39.

Roughly half worked fulltime and median annualized earnings were $13,013; about 4 percent higher, after controlling for inflation, than that observed for those leaving the program two years earlier. The typical (median) participant had sufficient earnings to support a household of 2.5 persons above the poverty level.

Earnings varied by gender and race-ethnicity. Among those employed during the third quarter after leaving the program, women earned 14 percent less than men, and Hispanics earned about 8 percent less than whites.

According to survey responses, 40 percent of those employed during the third quarter after exit had health benefits provided by their employer, and 22 percent received pension benefits. The survey also found that 28 percent of former clients received Supplemental Security Income (SSI) and 30 percent received Social Security Disability Income during the 12 months prior to the survey.

Figure 6.
Employment and Earnings of DVR Participants in the Third Quarter After Leaving Program

	1997-98		1999-00	
	All	Rehabilitated	All	Rehabilitated
Percentage self-reporting employment during third quarter after leaving program			60%	
Percentage with employment reported by employers to ESD the third quarter after leaving program	71%	56%	72%	57%
Median quarterly hours worked, of those working	382	400	376	397
Percentage employed full-time of those working (averaging 30 or more hours per week)	49%	52%	48%	51%
Median annualized earnings of those working	$12,476	$13,345	$13,013	$13,622
Size of household in which median earnings would support at poverty level	2.3	2.6	2.5	2.7
Size of household in which median earnings would support at twice poverty level	0.7	0.8	0.8	0.8
Median hourly wage of those working	$8.69	$8.77	$9.17	$9.23
Percentage self-reporting receipt of medical benefits from employer			40%	
Percentage self-reporting receipt of pension benefits from employer			22%	

Notes: Not available (n.a.); survey not conducted prior to the current evaluation.
Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

Administrative record matches suggest that participation in the program reduces reliance on Temporary Asistance for Needy Families (TANF) and food stamp benefits (Figure 7). Prior to entering the program 35 percent of the 1999-2000 clients received food stamps; during the third quarter after leaving the program, only 20 percent did so. The proportion receiving TANF benefits declined from 8 to 4 percent. There was also a postprogram decline in the receipt of public medical benefits. However, as one would expect given this population, the decline was more modest than other benefits. Most of those who received medical benefits before entering the program were able to continue receiving these benefits afterwards.

FIGURE 7.
Public Assistance Receipt Among DVR Participants

Percent Receiving	Quarter Before Plan Date	3rd Quarter After Leaving Program
TANF	8%	4%
Food Stamps	35%	20%
Medical Benefits	51%	43%

Note: Estimates are based on public assistance record matches for 5,636 participants leaving DVR programs from July 1999 through June 2000.

Areas for Improvement

When considering labor market outcomes, remember that every DVR client faces substantial impediments to employment. According to program eligibility requirements, clients would not have been able to enter or retain suitable employment had they not received DVR services. Sixty-eight percent of clients leaving the program during 1999-2000 were rehabilitated upon leaving the program (i.e., they were working for 90 days); up from 64 percent for those leaving two years earlier. Postprogram employment rates remained stable across the two years examined in this report, and postprogram earnings increased. Administrative record matches suggest that the program reduces reliance on TANF and food stamp benefits

According to survey results, the majority (62 percent) of clients who received job-specific training for a new job reported these skills improved a lot. However, among those who received training to adapt previous job skills to their disability, fewer (34 percent) reported substantial improvement. Although this reflects the difficulty encountered in adapting to a disability, it is an area that should be given consideration by program administrators. Former clients also expressed concerns regarding support services. As is the case in other programs, participants reported that unmet needs were greatest for job counseling services and information about job openings.

Secondary Career and Technical Education

Secondary career and technical education serves high school age youth in approximately 235 school districts and 9 vocational skills centers throughout the state. Its mission is to prepare students for successful roles in families, careers, and communities. Programs are designed to develop the skills, understanding, and attitudes needed by workers in their occupations. Instructional programs organized within career pathways include agriculture, family and consumer sciences, trade and industry, marketing education, business education, diversified occupations, technology education, cosmetology, health education, and others.

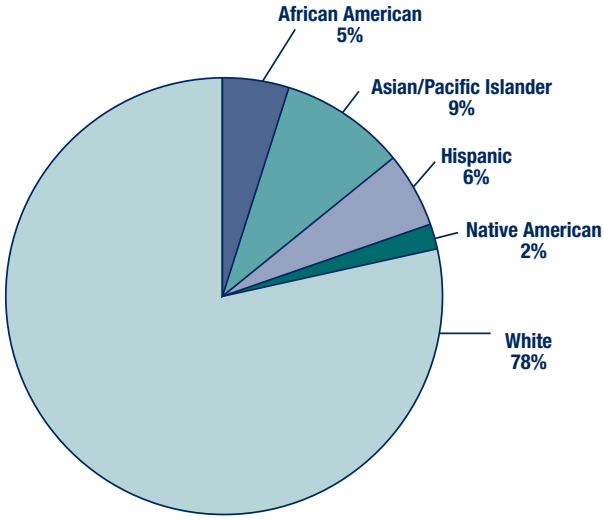
We limited our evaluation of this program, because of data limitations, to students who are identified by their districts as vocational completers (districts define a vocational completer as someone who completed a vocational sequence, whether or not the student earns a diploma).[1] This strategy is different than the other program evaluations included in the study, which were not limited to completers only.

For this study, the Office of Superintendent of Public Instruction (OSPI) provided information on 9,447 students who completed secondary vocational-technical education during the 1999-2000 school year. Demographic and course data were obtained from student records, and we secured employment-related information from matches with Employment Security Department (ESD) wage records from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. Enrollment data from Washington community and technical colleges, public four-year institutions, and private career schools were analyzed to examine the extent to which career and technical students continued their education. In addition, 1,654 former students completed a telephone survey during the fall of 2001, providing additional information on employment and satisfaction with the program. Survey responses were also collected from 407 firms that hired recent graduates from career and technical education programs.

Participant Characteristics

Career and technical education students reflect the racial-ethnic makeup of the general state population (Figure 1).[2] Twenty-two percent of the students included in this study were people of color, and almost half (48 percent) were female.

FIGURE 1.
Characteristics of Secondary Career and Technical Education Students: Race and Ethnicity



[1] The state defines a student who completes 360 hours of sequenced vocational classes as a vocational completer. The designation of who is a completer, however, does vary across some school districts. Smaller schools with fewer resources, for example, will offer the most complete sequence they can, but it may be fewer than 360 hours. These schools may still consider the students who finish the sequence to be completers.

[2] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. The racial composition figures depend upon how multiracial residents are counted. If those reporting more than one race are included, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, under 2 percent are Native American, and 6 percent Asian/Pacific Islander.

FIGURE 2.
Secondary Career and Technical Education Completers Receiving Skills Training

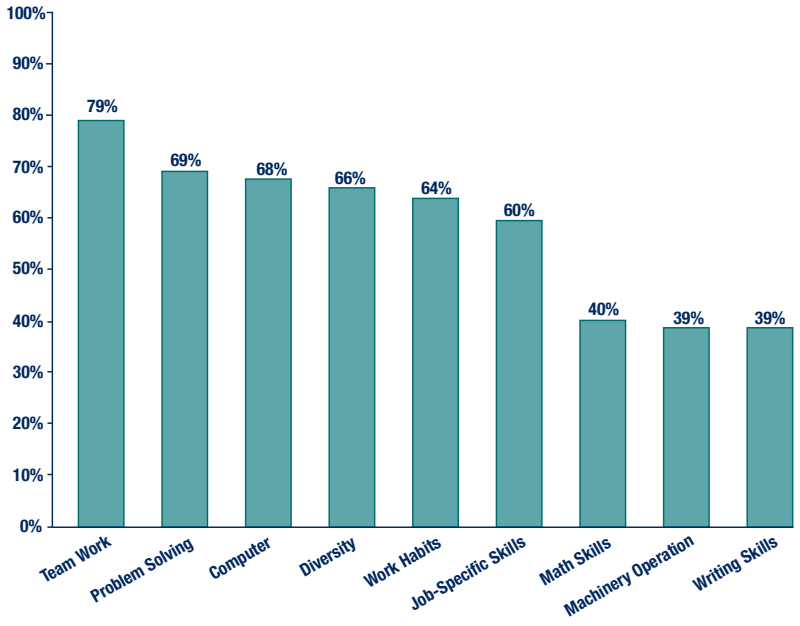
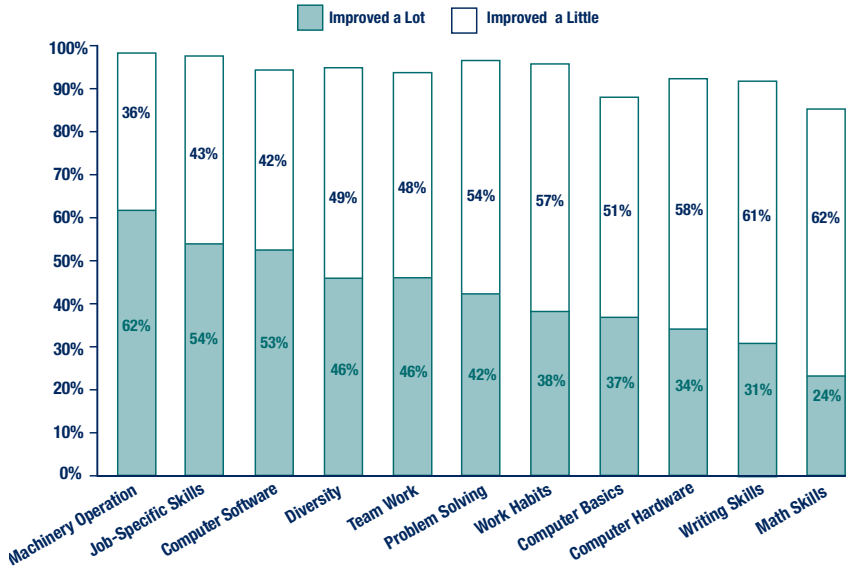


FIGURE 3.
Secondary Career and Technical Education Completers Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot



Competency Gains

According to the survey, most students enrolled in secondary career and technical education to gain skills for a job (62 percent) and to increase confidence in basic skills (68 percent).

The majority of students reported that they received training in teamwork, problem solving, computers, diversity, and work habit skills as part of their education (Figure 2). About 40 percent reported receiving instruction in math, writing, and the use of equipment and machinery. The proportion of students reporting that they received job-specific skills training (60 percent) was lower than in our 1999 survey (71 percent).

Most students said that their skills in all categories improved. However, the percentage who said that their skills improved a lot varied across the categories (Figure 3).

A majority of participants reported substantial improvement in machinery operation, job-specific, and computer software skills. Less than a third reported substantial improvement in writing or math skills.

Among students who were employed when surveyed, 57 percent said their career and technical education was related to their job; about the same as was reported two years ago.

Many of the former students continued their education at a community or technical college or four-year university. In the third quarter after completing their program, 44 percent of the former students were enrolled in postsecondary education.

Participant Satisfaction

According to the survey, former students were generally satisfied with their career and technical education programs. Ninety-seven percent said the program met their objectives, with 54 percent reporting that their objectives had definitely been met. Ninety-six percent were satisfied with the program overall. These levels of satisfaction are similar to those reported two years earlier.

Students were generally very satisfied with the facilities used in their training, the length of the program, and the quality of teaching. Satisfaction levels were relatively low with respect to advice on selecting a program and the usefulness of training to their career. Even in these areas, however, over 85 percent reported being somewhat satisfied, though less than half reported being very satisfied.

In general, former high school vocational students reported needing fewer support services than other groups we studied, and when they did need these services they generally received them (Figure 4). The services most frequently needed by students were assistance with resume writing and job interviewing.

FIGURE 4.
Support Service Needs of Secondary Career and Technical Education Students

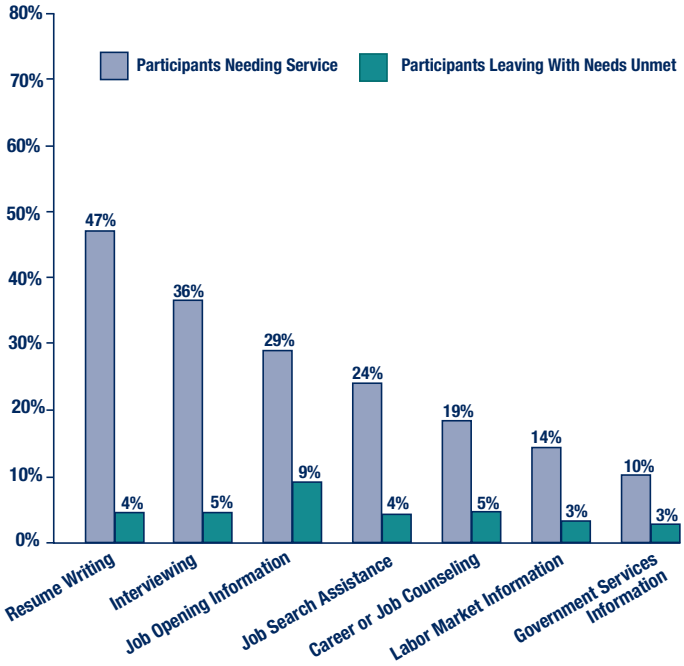
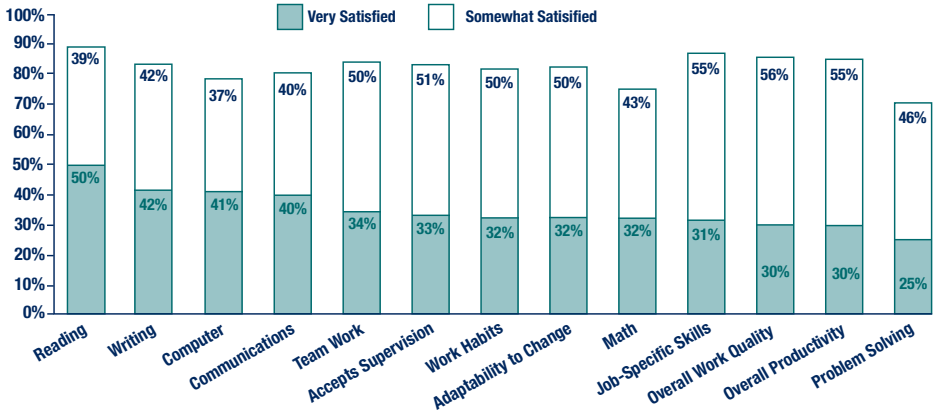


FIGURE 5.
Employer Satisfaction With New Employees Who Had Recently Completed a Secondary Career and Technical Education Program



Employer Satisfaction

The employer survey asked firms to evaluate new employees who recently completed a career and technical education program. Eighty-six percent of employers said that they were either very or somewhat satisfied with the overall quality of work of these new employees (Figure 5). Most employers were satisfied with the reading and writing skills of their new hires, but fewer were satisfied with their math skills and problem solving abilities. Whereas 86 percent were satisfied with job-specific skills, less than a third were very satisfied.

Employment and Earnings

According to the survey, 75 percent of the 1999-2000 secondary vocational completers were employed during the period six to nine months after leaving school. Based on the ESD wage records, we found that 58 percent of the former students had reported employment during the third quarter after they left their program (Figure 6). Note that these records underestimate total employment rates.[3] In all, 75 percent were either employed (in employment reported to Employment Security) or enrolled in a two- or four-year college or private career school during the third quarter following their program. This is about the same total placement rate that was reported two years ago.

The median wage for Class of 2000 completers was $8.14 per hour (Figure 6). Though this wage may seem low, it is important to remember that these are

[3] Washington's ESD wage file includes 85 to 90 percent of the employment in the state. ESD wage files do not include information on self-employment, and this is the main reason why employment reported by ESD is lower than what is self-reported by the survey respondents.

FIGURE 6.
Employment and Earnings of Secondary Career and Technical Education Completers in the Third Quarter After Leaving Program

	1995-96	1997-98		1999-00	
	All	All	Not Enrolled in School	All	Not Enrolled in School
Percentage self-reporting employment during third quarter after leaving program	80%	79%		75%	
Percentage with employment reported by employers to ESD the third quarter after leaving program	68%	62%		58%	
Percentage with reported employment and/or enrolled in higher education		74%		75%	
Median quarterly hours worked, of those working	289	274	328	259	332
Percentage employed full-time of those working (averaging 30 or more hours/week)	33%	29%	37%	29%	41%
Median annualized earnings of those working	$7,805	$8,369	$9,970	$8,071	$10,258
Size of household in which median earnings would support at poverty level	0.9	1.0	1.5	0.9	1.6
Size of household in which median earnings would support at twice poverty level	0.5	0.5	0.6	0.5	0.6
Median hourly wage of those working	$6.98	$7.58	$7.80	$8.14	$8.28
Percentage self-reporting receipt of medical benefits from employer	34%	35%		40%	
Percentage self-reporting receipt of pension benefits from employer	17%	17%		18%	

Notes: Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

young, entry-level workers. Also, the median wage of former students increased 7 percent, controlling for inflation, from that reported two years ago.

The third quarter after they left their high school vocational program, the typical (median) student had sufficient earnings to support about one person above the poverty level. Among those who were working and not enrolled in postsecondary education, median earnings could support 1.6 persons above the poverty line.

According to the survey responses, 40 percent of those employed had medical benefits provided by their employer, and 18 percent received pension benefits.

Earnings varied by gender. As is true in most other programs we studied, male students had higher quarterly earnings than female students did. Among those working during the third quarter after leaving school, men earned 13 percent more than women; they worked more hours and received higher hourly wages. Hourly wage rates did not vary substantially by race or ethnicity. Hours worked did, however, and as a result African American students earned about 8 percent less than whites; Native American students earned 11 percent less.

School records suggest that 6 percent of the students included in this study had a disability. The employment rate and earnings of vocational completers who had a disability were not substantially different from those who did not. They were, however, much less likely to be enrolled in higher education during the third quarter after exit (20 percent versus 45 percent).

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to participants after they leave programs (e.g., placement rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to program participants as compared to what would have happened if there were no program. The objective is to determine the short-term and longer-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the program were compared to individuals who had similar characteristics, but who didn't participate in it.[4] The comparison group was selected from a general survey of high school seniors conducted by OSPI. This Graduate Follow-Up Study was used to identify both students who completed career and technical education as well as comparable students who had not. Short-term net impacts were derived by examining outcomes for individuals who left school during the 1999-2000 school year and longer-term impacts for individuals who left during 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used to estimate net impacts.

Career and technical education has sizeable positive impacts on employment and earnings.

Figure 7 shows the short-term net impacts of completing career and technical education. During the third quarter after the 1999-2000 students graduated from school, there were positive net impacts on employment and earnings. Career and technical education was associated with an increase of 5.5 percentage points in employment reported to ESD. Among those with reported employment, the impact on hours worked in the quarter was 11.4, and the impact on mean quarterly earnings was $112. The impacts on welfare take-up rates were insignificant and small.

[4] The following characteristics were used in the selection of comparison group members—race, ethnicity, gender, disability status, participation in need based special programs, grade point average, graduation from high school, region, public assistance receipt, employment history, industry, and earnings.

FIGURE 7.
Short-Term Net Impacts

Results for Secondary Career and Technical Education Completers Who Left School During PY 1999-2000

	Net Impact
Employment: percentage in reported employment	5.5%
Mean Hourly Wage: of those working	$0.29*
Mean Hours Worked: per quarter for those working	11.4
Mean Quarterly Earnings: of those working	$112
TANF: percentage receiving aid	0.0%*
Food Stamps: percentage receiving	–0.4%
Medical Benefits: percentage receiving	–0.6%*

Short-term refers to impacts observed in the third quarter after leaving the program.

* Not statistically significant at the 0.10 level.

FIGURE 8.
Longer-Term Net Impacts

Results for Secondary Career and Technical Education Completers Who Left School During PY 1997-98

	Net Impact
Employment: percentage in reported employment	5.7%
Mean Hourly Wage: of those working	$0.50
Mean Hours Worked: per quarter for those working	27.1
Mean Quarterly Earnings: of those working	$451
TANF**: percentage receiving aid	0.1%*
Food Stamps: percentage receiving	0.1%*
Medical Benefits: percentage receiving	–0.3%*
Unemployment Insurance: percentage receiving	1.0%

Longer-term refers to impacts observed 8 to 11 quarters after leaving the program.

* Not statistically significant at the 0.10 level.
** Temporary Assistance for Needy Families (TANF)

The longer-term impacts, observed 8 to 11 quarters after 1997-98 students left school, are even stronger (Figure 8). The employment rate for career and technical education students was 5.7 percentage points higher than that for the comparison group. Among those with reported employment, the impact on the mean hourly wage was $0.50, the impact on hours worked in the quarter was 11.4, and the impact on mean quarterly earnings was $451. Again, there were no significant impacts on welfare or medical benefits. There was a small positive effect of program participation on receipt of unemployment insurance.

Benefits and Costs

The cost-benefit analysis examines the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.[5] Benefits and costs are evaluated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 1997-98, because a longer-term follow-up is required for this analysis.

The program cost is the difference in the cost of a student completing career and technical education compared to the cost of a student completing another type of high school program.[6] (The difference is primarily due to smaller student/teacher ratios in vocational education.) The intent of the cost-benefit evaluation is to analyze the net value of completing a vocational type of program, rather than the net value of completing high school.

[5] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

[6] The marginal cost to the state is reflected by the vocational funding enhancement that school districts receive for each career and technical student; $720 per full-time equivalent student. We add to this the Carl Perkins Vocational and Technical Education funds allocated to career and technical education in the Washington State; $150 on a full-time equivalent student basis.

Career and technical education substantially enhances the lifetime earnings of program completers. Gains in earnings and employee benefits far outweigh the costs of career and technical education to the public.

For each career and technical education completer, the marginal cost to the public (taxpayer) is roughly $870 over the length of their enrollment (Figure 9). During the first two-and-a-half years after leaving school, the average completer will gain $3,041 in earnings. During the course of their working life to age 65, they will gain about $59,000 in earnings and $12,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training.

Impacts on the receipt of social welfare benefits are minor. Unemployment insurance benefits, however, are expected to increase by $3,201 over a completer's working lifetime. (Since the former students are more likely to be working most of the time, they are more likely to qualify for unemployment insurance when they do suffer unemployment.) The total public (taxpayer) cost is more than offset by expected gains in additional social security, Medicare, federal income, and state sales taxes—almost $15,000 per vocational completer.

Areas for Improvement

The majority of students were satisfied with the quality of their career and technical education program. Most were either employed or enrolled in a two- or four-year college during the third quarter after leaving their program. Moreover, the net impact analysis suggests that the program substantially increases the lifetime earnings of vocational completers.

Whereas the evaluation results are generally positive, there are areas that could be stronger. Student and employer surveys suggest that more resources should be devoted toward training in math skills. Relatively few students reported receiving training in math, and among those that did, the large majority said that these skills improved only a little. Employers reported they were not as satisfied with these students' math skills as they were with many of their other skills.

As was found in previous evaluations, the post-program wage rates of female students were lower than those for males. Secondary vocational education should continue to strive to eradicate differences based upon gender. Secondary vocational education should also continue to attempt to improve outcomes for students with disabilities. These students currently are much less likely than other students to go on to postsecondary education or training.

FIGURE 9.
Benefits and Costs of Secondary Career and Technical Education

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Earnings	$3,041		$59,363	
Employee Benefits	$608		$11,873	
Taxes	-$765	$765	-$14,930	$14,930
UI Benefits	$10	-$10	$3,201	-$3,201
TANF Benefits*	-$140	$140	$123	-$123
Food Stamp Benefits	-$19	$19	$332	-$332
Medical Benefits	$4	-$4	$29	-$29
Program Costs		-$870		-$870
TOTAL	$2,739	$40	$59,991	$10,375

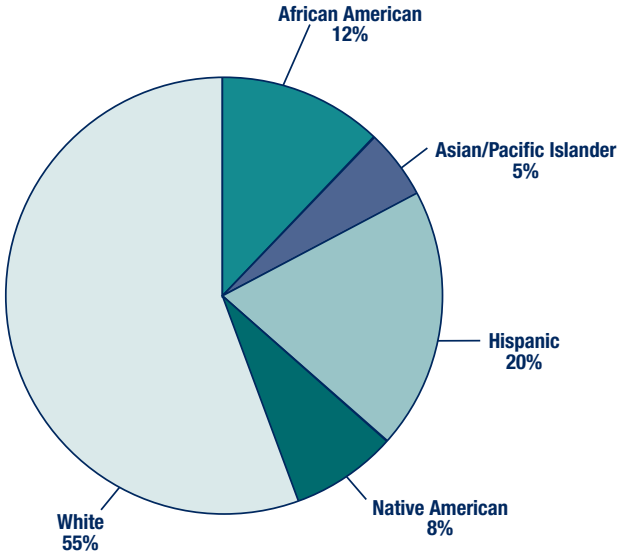
*TANF benefits reflect the value of cash grants, childcare, and other client support services.

Job Training Partnership Act Title II-C for Youth[1]

The Job Training Partnership Act (JTPA) Title II-C program served low-income youth from 16 to 21 years of age with barriers to success in school or employment. Barriers included low levels of literacy, dropping out of school, a criminal record, and receipt of Temporary Assistance for Needy Families (TANF) benefits. When considering participant outcomes of Title II-C, it is important to remember that the program targeted youth who did not have ready access to many resources and opportunities.

JTPA Title II-C provided a variety of training and employment-related services, including, but not limited to, occupational training, basic skills instruction, work experience, and job search assistance, such as career counseling, resume preparation, and job referrals. Basic skills instruction includes reading, writing, speaking, math, and reasoning, with the goal to demonstrate the ability to correctly apply these skills. Lacking these skills was a condition of eligibility for all in-school and most out-of-school youth. Participation in Title II-C was closely linked to educational goals, remaining in or returning to school, and obtaining basic educational skills.

FIGURE 1.
Characteristics of JTPA Title II-C Youth Participants: Race and Ethnicity



Title II-C was administered by the Employment Security Department (ESD) at the state level and by 12 service delivery areas (SDAs) at the local level. Each SDA was headed by a Private Industry Council, who either provided services directly or purchased services from other providers in partnership with local elected officials. SDAs developed a local education plan in cooperation with local school districts, which established educational standards for individual progress. SDAs then monitored the participants' progress and could supplement traditional services by providing tutoring, mentoring, or other appropriate activities.

Significant numbers of individuals entered and left the JTPA Title II-C program without receiving any employment-related service beyond an employability assessment. This report excludes such individuals. For the study, participant records were obtained on 1,676 youth who left the JTPA Title II-C program from July 1, 1999, through June 30, 2000. The typical (median) participant was in the program for six months.

This study includes information from Employment Security Department (ESD) wage files from Washington, Idaho, Montana, Alaska, and Oregon. Federal and military employment records were also included. In addition, 334 of the former participants completed a telephone survey, providing further information on employment and satisfaction with the training.

Participant Characteristics

Title II-C participants were more racially-ethnically diverse than the state general population. Forty-five percent were people of color. African-American, Hispanic, and Native American youth were represented at levels above their proportions in the state population (Figure 1).[2] Fifty-seven percent of participants were female, and the median age at program registration was 17.

[1] This report is based upon Job Training Partnership Act (JTPA) programs in place during the time period July 1, 1999, to June 30, 2000. On July 1, 2000, the Workforce Investment Act (WIA) replaced JTPA.

Many Title II-C participants faced substantial barriers to success in school and the labor market. Over half (57 percent) were high school dropouts when they entered the program. Almost a third (31 percent) had records of arrest or conviction. Twenty-two percent were single parents, and 12 percent had histories of substance abuse.

Competency Gains

Based on survey results, the majority of JTPA Title II-C participants entered the program to improve their job skills, get help in finding a job, and to get hands-on job training. Eighty-four percent enrolled to get skills for a new job, 77 percent to obtain job search assistance, and 81 percent to get on-the-job training. Most participants (72 percent) also cited gaining more self-confidence in basic skills as a reason for enrolling.

When surveyed, 65 percent of participants reported they received training in specific job skills as part of their program (Figure 2). The majority of participants received training in various workplace skills (teamwork, work habits, diversity[3] and problem-solving skills). Less than half of the participants received training in computer, math, and writing skills.

FIGURE 2.
JTPA Title II-C Youth Participants Receiving Specific Skills Training

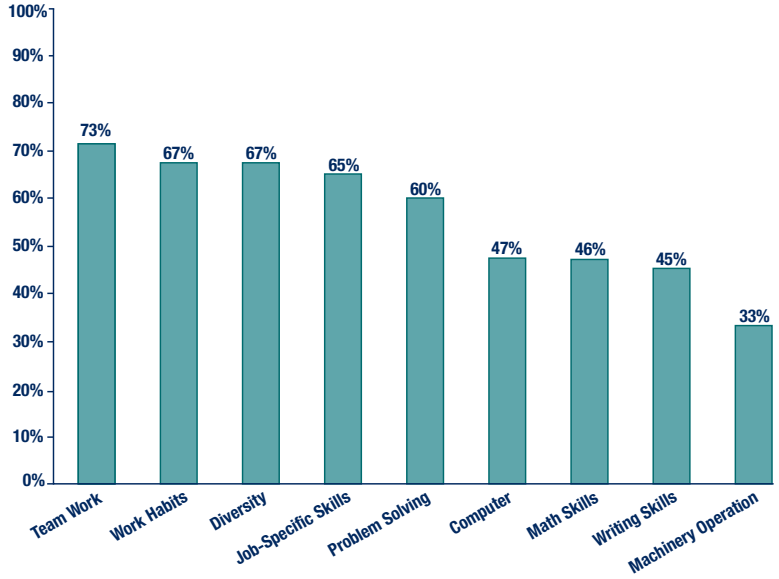
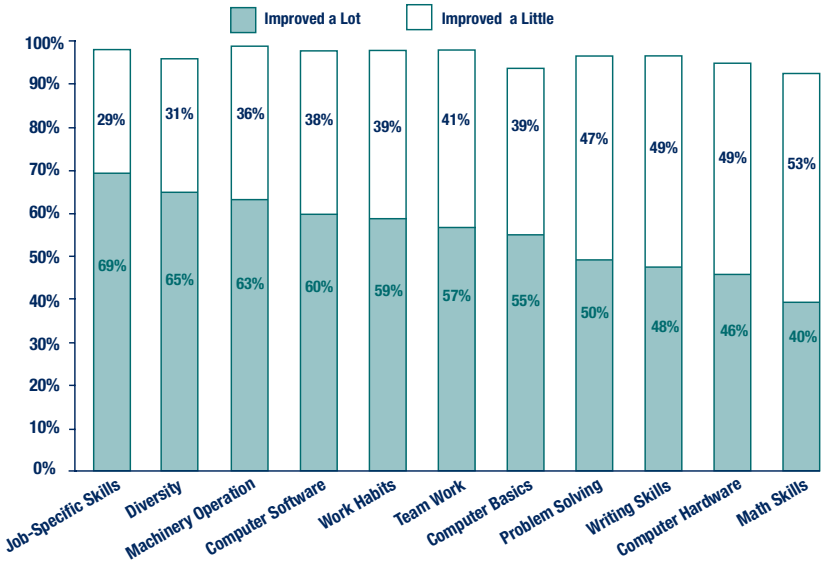


FIGURE 3.
JTPA II-C Participants Receiving Specific Skills Training Who Reported Their Skills Improved a Little or a Lot



[2] Seventy-nine percent of Washington residents, according to the 2000 Census, are non-Hispanic whites. Hispanics now comprise 7.5 percent of the state's population. The racial composition figures depend upon how multiracial residents are counted. If those reporting more than one race are included, about 4 percent of our residents are African American, nearly 3 percent are Native American, and just over 7 percent are Asian/Pacific Islander. Among those reporting only one race, 3 percent are African American, under 2 percent are Native American, and 6 percent Asian/Pacific Islander.

[3] This refers to training in how to "work with people who are different from you."

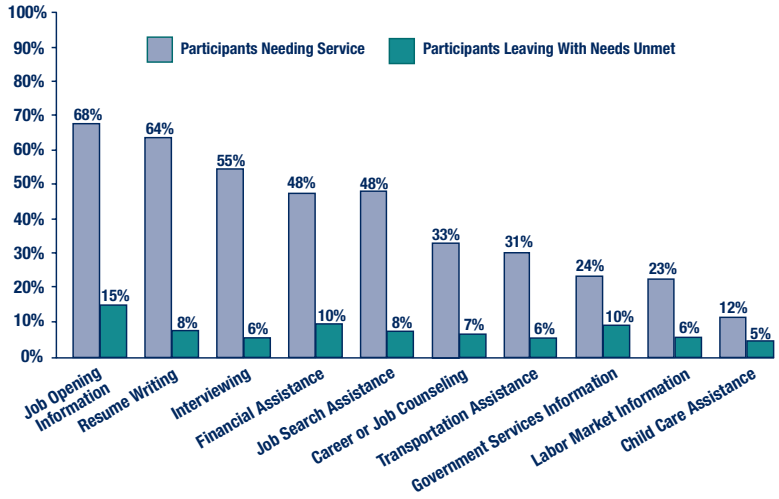
Among those who received particular types of training, almost all reported that their skills had improved, at least a little (Figure 3). The proportions reporting substantial skill improvement, however, varied across training categories. Relatively high percentages of participants who received training in job-specific skills and machinery operation reported that their skills improved a lot. Lower percentages reported substantial gains in writing and math skills. Among those employed after the program, 59 percent said that their training was related to their job.

Participant Satisfaction

Survey results revealed that participants were quite satisfied with the training and support services they received as part of their JTPA Title II-C program. Ninety-two percent of the participants surveyed said they had met their educational objectives in the program (50 percent stated they definitely met their objectives). Overall satisfaction was comparable to levels reported two years ago. Ninety-five percent were satisfied with the overall quality of the program. Satisfaction levels were high for all aspects of training: facilities (95 percent satisfied), training equipment (92 percent), quality of teaching (93 percent), usefulness to career (91 percent), and length of program (88 percent).

As stated earlier, many of the services provided by JTPA Title II-C were not occupational or basic skills training, but employment-related services such as job search assistance. Based on the survey results, most of the participants who needed employment and other support services received them, and in most cases they said their needs had been met by the services (Figure 4). The services most frequently needed by participants were information on job openings, assistance with resume writing, interviewing, and financial and job search assistance. Most participants had their needs in these areas met. Fewer participants (12 percent) required childcare assistance. Among those who did, however, almost half reported that their needs were not met.

FIGURE 4.
Support Services Needs of JTPA Title II-C Youth Participants



Employment and Earnings

According to survey responses, 74 percent of the 1999-2000 JTPA Title II-C participants were employed during the period six to nine months following the program (Figure 5). To find out more about the former participants' postprogram employment and earnings, we matched participant records with ESD wage files from Washington and neighboring states. These files contain information only on those individuals with employment reported for unemployment insurance purposes (85 to 90 percent of the total employment in state, with self-employment being the largest type of employment not covered).

Fifty-five percent of the JTPA Title II-C participants had employment reported to the ESD during the third quarter after they left the program. Only about a third worked fulltime (averaging of 30 hours or more per week) during the third quarter. Among those not enrolled in school, the median hourly wage was $7.61, and median annualized earnings were $7,436. Though these earnings levels are low, it is important to remember that these participants were young, entry-level workers. Also, the median hourly wage did increase by 12 percent over what was reported two years earlier.

According to the survey responses, 40 percent of those employed had health benefits provided by their employer, and 18 percent received pension benefits.

Wages rates among former JTPA II-C participants, as one would expect, exhibited less variation than was observed in programs serving adults.

FIGURE 5.
Employment and Earnings of JTPA II-C Youth Participants in the Third Quarter After Leaving Program

	1995-96	1997-98	1999-2000	
			All	Not in School
Percentage self-reporting employment during third quarter after leaving the program	66%	76%	74%	
Percentage with employment reported by employers to ESD the third quarter after leaving program	50%	59%	55%	
Median quarterly hours worked, of those working	258	250	247	250
Percentage employed full-time of those working (averaging 30 or more hours/week)	32%	27%	28%	29%
Median annualized earnings of those working	$6,343	$6,727	$7,364	$7,436
Size of household in which median earnings would support at poverty level	0.7	0.8	0.9	0.9
Size of household in which median earnings would support at twice poverty level	0.4	0.4	0.4	0.4
Median hourly wage of those working	$6.48	$6.82	$7.65	$7.61
Percentage self-reporting receipt of medical benefits from employer	36%	35%	40%	
Percentage self-reporting receipt of pension benefits from employer	20%	18%	18%	

Notes: Earnings and wages are expressed in first quarter 2001 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2001.

The distribution of wages received by former JTPA youth participants was:

	Hourly Wage
Lowest 25%	Below $7.00
Second 25%	$7.00 – $7.65
Third 25%	$7.66 – $9.11
Highest 25%	Above $9.11

Wage rates did not vary much by gender or race-ethnicity. However, there were differences across groups in hours worked, and this caused quarterly earnings to vary. African Americans and Asian/Pacific Islanders earned about 10 percent less than whites; women earned almost 10 percent less than men.

Employment outcomes also varied by disability status. Administrative records suggest that 16 percent of the JTPA II-C youth included in this study had a disability. These participants were less likely to have employment reported to the ESD during the third quarter after exit (45 versus 57 percent). Among those working, hourly wage rates did not differ substantially by disability status. Earnings did vary, however, because of differences in the number of hours worked. Former participants who had a disability tended to work fewer hours (a quarterly median of 181 versus 255), and, as a result, their median earnings were only 81 percent that of those with no reported disability.

Net Impacts

Much of this chapter summarizes outcome analyses, which describe what happens to participants after they leave the program (e.g., employment rates, median earnings). The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research, attempts to estimate what happens to these participants as compared to what would have happened if they had not enrolled in the program. The objective is to determine the short-term and long-term impacts of program participation on employment, wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the program were compared to individuals who had similar characteristics, but who didn't participate in it. The comparison group members were selected from registrants to the state's Employment Service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the Employment Service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. Please see the Technical Appendix to this report for a more detailed discussion of the methodologies and data used in the net impact analysis.

FIGURE 6.
Short- and Longer-Term Net Impacts

Results for JTPA Title II-C Youth Who Left the Program During PY 1999-2000 or PY 1997-98

	Short-Term 1999-00 Exiters	Longer-Term 1997-98 Exiters
Employment: percentage in reported employment	-4.0%*	5.3%
Mean Hourly Wage: Of those working	$0.96	–$0.71*
Mean Hours Worked: per quarter for those working	10.4*	2.3*
Mean Quarterly Earnings: of those working	$86*	-$72*
TANF: percentage receiving aid	7.9%	–0.7%*
Food Stamps: percentage receiving	8.4%	5.0%
Medical Benefits: percentage receiving	16.3%	2.9%*
Unemployment Insurance: percentage receiving		3.5%

Short-term refers to impacts observed in the third quarter after leaving the program. Longer-term refers to impacts observed 8 to 11 quarters after leaving the program.
* Not statistically significant at the 0.10 level.

The program had a positive longer-term impact on employment. It did not have statistically significant impacts on the earnings of those working.

Figure 6 shows the short-term net impacts of the program. During the third quarter after the 1999-2000 participants left training, there were no statistically significant impacts on employment, hours worked or quarterly earnings. There was a positive impact on the hourly wage rate, among those with reported employment. Program participation was also associated with short-term increases in the receipt of social welfare benefits.[4]

The longer-term net impacts are also shown in Figure 6. These are the impacts observed 8 to 11 quarters after participants left the program during the 1997-98 program year. Again, the impacts on the hours worked and earnings (among those working) are not statistically significant. There is, however, a significant positive impact (5.3 percent) on employment in the longer-term. Note that this is the difference between participant results and the employment of similar individuals who did not participate in the program. The impacts on social welfare benefits moderate in the longer-term.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, unemployment insurance benefits, and certain taxes.[5] Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 1997-98, because a longer-term follow-up is required for this analysis.

For each JTPA II-C participant, the public (tax payer) cost is $2,325 over the length of their enrollment, and the participant cost is $343 in foregone earnings while training (Figure 7). During the first two-and-a-half years after leaving the program, program participation does not increase the average trainee's earnings. Lifetime earnings are increased, however, because of positive impacts on employment. During the course of working life to age 65, the average trainee will gain about $28,500 in net earnings (earnings minus foregone earnings) and almost $6,000 in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training. The ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is $34,281 to $2,325, or 15 to 1.

The total public (taxpayer) costs is less than the program costs because program participation is associated with increased tax revenues. From the time of leaving training to age 65, the public is expected to gain over $7,000 per participant in additional social security, Medicare, federal income, and state sales taxes. Reductions in projected lifetime social welfare receipts are largely offset by expected increases in UI benefit payments.

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[4] A few participant characteristics, associated with barriers to employment, were not directly controlled for in the net impact analysis because of data constraints. Data for the comparison group did not include information on offender status, substance abuse, or single parent status. In order to examine the sensitivity of the estimated impacts to these omitted variables, the analysis was also conducted for the subset of participants who were not substance abusers, ex-offenders, or single parents. Removing these hard-to-serve participants did not significantly alter the estimated employment or earnings impacts. It did, however, change the estimated impacts on social welfare benefit receipt; the impacts became negative.

[5] Upjohn estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

FIGURE 7.
Benefits and Costs of JTPA Title II-C for Youth

	First 2.5 Years After Program		Forecast to Age 65	
	Participants	Public	Participants	Public
Earnings	-$1,326		$28,853	
Employee Benefits	-$265		$5,771	
Taxes	$334	-$334	-$7,257	$7,257
UI Benefits	$175	-$175	$4,456	-$4,456
TANF*	-$2,261	$2,261	-$942	$942
Food Stamps	-$54	$54	-$3,694	$3,694
Medical Benefits	$47	-$47	$353	-$353
Foregone Earnings	-$343		-$343	
Program Costs		-$2,325		-$2,325
TOTAL	-$3,693	-$566	$27,197	$4,759

*TANF benefits reflect the value of cash grants, childcare, and other client support services.

Areas for Improvement

JTPA Title II-C served youth who were disadvantaged, and provided services for only about six months on the average. As is typical of young entry-level workers, former participant wages and earnings were relatively low. Most participants, however, were very satisfied with the their program, and support services remain a strong area for Title II-C.

As noted in prior evaluations, more attention should be given to basic skills instruction. According to survey results, most participants wanted to improve their basic skills, but fewer than half received training in math and writing. Moreover, among those who did receive it, fewer than half reported that their basic skills increased a lot.

Earnings and wages among former participants were higher than reported two years ago, but they remain low. Although the program was found to have a positive longer-term net impact on employment, it did not have statistically significant impacts on the earnings of those working. The Workforce Investment Act adopted a more holistic youth development approach than was characteristic of JTPA. Hopefully, this approach will promote higher earnings among disadvantaged youth.

There is also a need to improve outcomes among youth with disabilities. These participants were less likely to be employed after leaving the program, and they tended to have lower earnings.

Workforce Training Results 2002

Appendix

Employer Survey: Satisfaction with Trainees Completing Education and Training Programs 2001

High School Vocational Education Program

1. In the last 12 months, has your firm/organization hired any new employees who had recently completed a vocational education program at a high school or vocational skills center? [PLEASE NOTE: This question refers to vocational education only. It does not pertain to anyone who was enrolled in a college preparatory or general education program at a high school.]

   ◯ Yes

   ◯ No – SKIP TO PAGE 2, QUESTION 4

2. How satisfied was your firm/organization with each of the skills listed below of new employees who had recently completed a vocational education program at a high school or vocational skills center? PLEASE FILL IN ONLY ONE CIRCLE IN EACH ROW.

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Reading skills _____	①	②	③	④	⑤
b. Writing skills _____	①	②	③	④	⑤
c. Math skills _____	①	②	③	④	⑤
d. Occupation-specific skills needed to do the job _____	①	②	③	④	⑤
e. Computer skills _____	①	②	③	④	⑤
f. Team work skills _____	①	②	③	④	⑤
g. Problem solving or critical thinking ___	①	②	③	④	⑤
h. Communication skills _____	①	②	③	④	⑤
i. Positive work habits and attitudes ____	①	②	③	④	⑤
j. Ability to accept supervision _____	①	②	③	④	⑤
k. Ability to adapt to changes in duties __ and responsibilities	①	②	③	④	⑤

3. How satisfied was your firm/organization with the overall productivity and overall quality of the work performed by new employees who had recently completed a vocational education program at a high school or vocational skills center?

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Overall productivity _____	①	②	③	④	⑤
b. Overall quality of work _____	①	②	③	④	⑤

Community or Technical College

4. In the last 12 months, has your firm/organization hired any new employees who had recently completed a vocational certificate or vocational degree program at a community or technical college? [PLEASE NOTE: This question refers to vocational education only. It does not pertain to anyone who pursued general liberal arts training leading to an associate of arts degree (A.A.) from a community college.]

◯ Yes

◯ No – SKIP TO PAGE 2, QUESTION 4

5. How satisfied was your firm/organization with each of the skills listed below of new employees who had recently completed a vocational certificate or vocational degree program at a community or technical college? PLEASE FILL IN ONLY ONE CIRCLE IN EACH ROW.

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Reading skills _____	①	②	③	④	⑤
b. Writing skills _____	①	②	③	④	⑤
c. Math skills _____	①	②	③	④	⑤
d. Occupation-specific skills needed to do the job _____	①	②	③	④	⑤
e. Computer skills_____	①	②	③	④	⑤
f. Team work skills _____	①	②	③	④	⑤
g. Problem solving or critical thinking ___	①	②	③	④	⑤
h. Communication skills _____	①	②	③	④	⑤
i. Positive work habits and attitudes _____	①	②	③	④	⑤
j. Ability to accept supervision _____	①	②	③	④	⑤
k. Ability to adapt to changes in duties and responsibilities _____	①	②	③	④	⑤

6. How satisfied was your firm/organization with the overall productivity and overall quality of the work performed by new employees who had recently completed a vocational certificate or vocational degree program at a community or technical college?

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Overall productivity _____	①	②	③	④	⑤
b. Overall quality of work _____	①	②	③	④	⑤

Workforce Development Council/WIA/Private Industry Council/JTPA

7. In the last 12 months, has your firm/organization hired any new employees who had recently completed a Workforce Development Council, WIA, Private Industry Council, or JTPA training program?

   ◯ Yes

   ◯ No – SKIP TO PAGE 4, QUESTION 10

8. How satisfied was your firm/organization with each of the skills listed below of new employees who had recently completed a Private Industry Council or JTPA training program? PLEASE FILL IN ONLY ONE CIRCLE IN EACH ROW.

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Reading skills _____	①	②	③	④	⑤
b. Writing skills _____	①	②	③	④	⑤
c. Math skills _____	①	②	③	④	⑤
d. Occupation-specific skills needed to do the job _____	①	②	③	④	⑤
e. Computer skills_____	①	②	③	④	⑤
f. Team work skills_____	①	②	③	④	⑤
g. Problem solving or critical thinking _	①	②	③	④	⑤
h. Communication skills _____	①	②	③	④	⑤
i. Positive work habits and attitudes ___	①	②	③	④	⑤
j. Ability to accept supervision _____	①	②	③	④	⑤
k. Ability to adapt to changes in duties and responsibilities _____	①	②	③	④	⑤

9. How satisfied was your firm/organization with the overall productivity and overall quality of the work performed by new employees who had recently completed a Private Industry Council or JTPA training program?

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Overall productivity_____	①	②	③	④	⑤
b. Overall quality of work _____	①	②	③	④	⑤

Private Vocational/Technical School

10. In the last 12 months, has your firm/organization hired any new employees who had recently completed a training program at a private vocational or technical school?

◯ Yes

◯ No – SKIP TO PAGE 5, QUESTION 13

11. How satisfied was your firm/organization with each of the skills listed below of new employees who had recently completed a training program at a private vocational or technical school? PLEASE FILL IN ONLY ONE CIRCLE IN EACH ROW.

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Reading skills _____	①	②	③	④	⑤
b. Writing skills _____	①	②	③	④	⑤
c. Math skills _____	①	②	③	④	⑤
d. Occupation-specific skills needed to do the job	①	②	③	④	⑤
e. Computer skills_____	①	②	③	④	⑤
f. Team work skills	①	②	③	④	⑤
g. Problem solving or critical thinking _____	①	②	③	④	⑤
h. Communication skills _____	①	②	③	④	⑤
i. Positive work habits and attitudes ____	①	②	③	④	⑤
j. Ability to accept supervision _____	①	②	③	④	⑤
k. Ability to adapt to changes in duties and responsibilities	①	②	③	④	⑤

12. How satisfied was your firm/organization with the overall productivity and overall quality of the work performed by new employees who had recently completed a training program at a private vocational or technical school?

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Overall productivity _____	①	②	③	④	⑤
b. Overall quality of work _____	①	②	③	④	⑤

Apprenticeship Program

13. In the last 12 months, has your firm/organization hired any new employees who had recently completed an apprenticeship program?

◯ Yes

◯ No – SKIP TO PAGE 6, QUESTION 16

14. How satisfied was your firm/organization with each of the skills listed below of new employees who had recently completed an apprenticeship program? PLEASE FILL IN ONLY ONE CIRCLE IN EACH ROW.

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Reading skills _____	①	②	③	④	⑤
b. Writing skills _____	①	②	③	④	⑤
c. Math skills _____	①	②	③	④	⑤
d. Occupation-specific skills needed to do the job _____	①	②	③	④	⑤
e. Computer skills _____	①	②	③	④	⑤
f. Team work skills _____	①	②	③	④	⑤
g. Problem solving or critical thinking _____	①	②	③	④	⑤
h. Communication skills _____	①	②	③	④	⑤
i. Positive work habits and attitudes ____	①	②	③	④	⑤
j. Ability to accept supervision _____	①	②	③	④	⑤
k. Ability to adapt to changes in duties and responsibilities _____	①	②	③	④	⑤

15. How satisfied was your firm/organization with the overall productivity and overall quality of the work performed by new employees who had recently completed an apprenticeship program?

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Overall productivity _____	①	②	③	④	⑤
b. Overall quality of work _____	①	②	③	④	⑤

Adult Basic Skills

16. In the last 12 months, has your firm/organization hired any new employees who had recently participated in any adult basic skills classes (such as GED and English as a Second Language) at a community or technical college or community based organization?

◯ Yes

◯ No – SKIP TO PAGE 7, QUESTION 19

17. How satisfied was your firm/organization with each of the skills listed below of new employees who had recently participated in any adult basic skills classes (such as GED and English as a Second Language) at a community or technical college or community based organization? PLEASE FILL IN ONLY ONE CIRCLE IN EACH ROW.

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Reading skills _____	①	②	③	④	⑤
b. Writing skills _____	①	②	③	④	⑤
c. Math skills _____	①	②	③	④	⑤
d. Occupation-specific skills needed to do the job _____	①	②	③	④	⑤
e. Computer skills _____	①	②	③	④	⑤
f. Team work skills _____	①	②	③	④	⑤
g. Problem solving or critical thinking _____	①	②	③	④	⑤
h. Communication skills _____	①	②	③	④	⑤
i. Positive work habits and attitudes ____	①	②	③	④	⑤
j. Ability to accept supervision _____	①	②	③	④	⑤
k. Ability to adapt to changes in duties and responsibilities _____	①	②	③	④	⑤

18. How satisfied was your firm/organization with the overall productivity and overall quality of the work performed by new employees who had recently participated in any adult basic skills classes (such as GED and English as a Second Language) at a community or technical college or community based organization?

	Very Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Very Satisfied	Not Able to Evaluate
a. Overall productivity _____	①	②	③	④	⑤
b. Overall quality of work _____	①	②	③	④	⑤

19. Would you like a complimentary copy of a summary of survey results?

- ◯ Yes
- ◯ No

20. Please indicate on the lines below the name of a person at your firm/organization who we may contact if we have any questions about your survey or who should receive results.

Contact Person: _____

Title: _____

Telephone Number: _____

Fax Number: _____

E-Mail Address: _____

Participant Survey

The following questions were asked of former program participants in a phone survey administered by the Social & Economic Sciences Research Center of Washington State University. The survey began with two introductory questions, not presented here, which confirm that the correct individual is being interviewed.

Department of Labor Customer Satisfaction Questions

First, think about the services you received at/through <NAME OF INSTITUTION> such as career counseling, help with job search, occupational training, some other type of training, or other services/basic education classes. We'd like to know your overall satisfaction with the services received and whether you would recommend them to others.

Q-3. Using a scale of 1 to 10, where "1" means "Very Dissatisfied" and "10" means "Very Satisfied," what is your overall satisfaction with the services you received at/through <NAME OF INSTITUTION/TRAINING PROVIDER>?

1	2	3	4	5	6	7	8	9	10	11	12
Very Dissatisfied									Very Satisfied	Don't Know	Refused

Q-4. Considering all of the expectations you may have had about the services, to what extent have the services met your expectations? "1" now means "Falls Short of Your Expectations" and "10" means "Exceeds Your Expectations."

1	2	3	4	5	6	7	8	9	10	11	12
Falls Short									Exceeds	Don't Know	Refused

Q-5. Now I want you to think of the ideal program for people in your circumstances. How well do you think the services you received compare with the ideal set of services? "1" now means "Not Very Close To The Ideal" and "10" means "Very Close to the Ideal."

1	2	3	4	5	6	7	8	9	10	11	12
Not Very									Very Close	Don't Know	Refused

Reasons for Enrolling

Next, I'd like you to think back to the time when you decided to enroll (in the <name of program> training program / in this training program) (at / through) (the) <name of institution>.

Q-6. Did you decide to enroll … ?

READ. ROTATE.		Yes	No	DK/Ref.
A	To improve your skills for a job you already had?	1	2	3
B	To learn skills for a new job?	1	2	3
C	To either get or finish a degree or certificate?	1	2	3
D	For your own personal enjoyment or improvement?	1	2	3
E	To get job search assistance	1	2	3
F	To get on-the-job training	1	2	3
G	To get a GED	1	2	3
H	To improve your reading skills	1	2	3
I	To improve your math skills	1	2	3
J	To improve your ability in English	1	2	3
K	To give you more self-confidence in basic skills	1	2	3
L	To make school more interesting	1	2	3
M	To get work place experience	1	2	3
N	To prepare for post-secondary education	1	2	3

Were there other reasons? (specify)

_____

Program Completion

Q-7. Did you complete your (course of study / training program) before leaving the (college / school / program) on <EXIT DATE>?

1. Yes
2. No
3. DK/Refused

_____

Experience with the Program

The program you attended may have offered several different types of assistance — such as job-search-related activities or other kinds of assistance while attending the program. As I read the following list of different types of assistance, please tell me if you needed that assistance while you were enrolled in the program.

Q-8. Now I'm going to ask you about your experience with the program. While you were enrolled, did you need . . .

Q-8a. (IMMEDIATELY AFTER EACH 'YES' in Q9) Did you receive it?

Q-8b. (IMMEDIATELY AFTER EACH 'YES' IN Q9a) Did it meet your needs?

		8. Did you need?			8a. Did you receive?			8b. Meet needs?		
		Yes	No	DK	Yes	No	DK	Yes	No	DK
A	Career or job counseling	1	2	3	1	2	3	1	2	3
B	Assistance with resume writing	1	2	3	1	2	3	1	2	3
C	Assistance with learning how to search for a job	1	2	3	1	2	3	1	2	3
D	Assistance with job interviewing techniques	1	2	3	1	2	3	1	2	3
E	Information on job openings	1	2	3	1	2	3	1	2	3
F	Information on the labor market	1	2	3	1	2	3	1	2	3
G	Child care assistance	1	2	3	1	2	3	1	2	3
H	Transportation assistance	1	2	3	1	2	3	1	2	3
I	Financial assistance	1	2	3	1	2	3	1	2	3
J	Information about government services	1	2	3	1	2	3	1	2	3
K	Access to services for the disabled	1	2	3	1	2	3	1	2	3

Q-9. **(Ask of JTPA clients only)** Did you receive any training through the program?
1. Yes
2. No SKIP TO Q-12a

Next, I'm going to read a list of different types of training. As I read each one, please tell me if you received that type of training (through the classroom portion of your apprenticeship program) at (the) <name of institution>). Section repeats for (through the on-the-job portion of your apprenticeship program)

Q-10a. Did you receive training in . . .
Q-10b. (FOR EACH 'YES') Did the training improve your skill a lot, a little, or not at all?

		Q10a.			Q10b.			
		Yes	No	DK/Ref.	A Lot	A Little	Not At All	DK/Ref
A	The operation of machinery or equipment (other than computers)	1	2	3	1	2	3	4
B	Specific job skills	1	2	3	1	2	3	4
C	Writing skills	1	2	3	1	2	3	4
D	English speaking skills							
E	Reading skills							
F	Math skills	1	2	3	1	2	3	4
G	Critical thinking or problem solving	1	2	3	1	2	3	4
H	Work habits	1	2	3	1	2	3	4
I	How to work with people who are different from you	1	2	3	1	2	3	4
J	Teamwork skills	1	2	3	1	2	3	4

Q-10k Did your program include any training in the use of computers? If no, skip Q-10L through Q-10Q

	Yes	No	DK/Ref.	A Lot	A Little	Not At All	DK/ Ref
L General introduction to computer basics							
M General understanding of how computer hardware works							
N How to use computer software for specific tasks such as spreadsheets, word processing, or email							
O How to use the Internet							
P General understanding of how computer networks function							
Q How to install and troubleshoot software							

Q-11. **(Asked of all samples except Adult Basic Education and Apprentice)** Did your program include training on the job, such as internship, work-based learning, clinical experience, or cooperative education?

1. Yes
2. No — SKIP TO Q-12a
3. DK/Refused — SKIP TO Q-12a

Q-11a. To what extent did the work-related training improve your skills:

1. A Lot
2. A Little
3. Not at All
4. DK/Ref

Q-12a. To what extent did you meet your (educational) objective as a result of your enrollment? Would you say that you . . .. READ

1. Definitely met your objectives in this training program — SKIP TO Q13
2. Partially met your objectives — CONTINUE
3. Did not meet your objectives at all — CONTINUE
4. DK/Refused — SKIP TO Q13

Q-12b. Why didn't you completely meet your (educational) objective? (PROBE and CLARIFY)

Satisfaction with the Program

Next, I'm going to read a list of statements about the (classroom instruction portion of your apprenticeship program / training program) you participated in. As I read each one, please tell me how much you agree or disagree with that statement.

Q-13. For each of the following, we would like to know if you were very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied.

		Satisfied		Dissatisfied		DK/ Ref	Didn't Use/ NA
		V	S	S	V		
A	Advice on selecting a training program, if you received any						
B	The equipment, if you used equipment						
C	The facilities and the buildings where the training was held						
D	The class times						
E	The class location						
F	The length of the training program (see Q13k)						
G	The quality of the teaching						
H	The opportunity to interact with instructors outside of class						
I	The usefulness of the training to your career						
J	The cost of the training program						

Q-13k. If the student indicated dissatisfaction with the length of the training program, "Was the training program "too long" or "too short?"
1. Too long
2. Too short

Q-14. Overall, would you say that you were very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the training program?
1. Very Satisfied
2. Somewhat Satisfied
3. Somewhat Dissatisfied
4. Very Dissatisfied
5. Vol. Neutral
6. DK/Refused

(Q14 is asked twice of Apprentices – once for "classroom instruction portion", once for "on-the-job training portion")

Employment Three Calendar Quarters Prior to Training

To help determine if the program you took helps people find jobs, I would like to ask some questions about your employment before and after you attended <name of institution. First, I would like to ask you about any jobs you held three calendar quarters before you started your training program. That is, between <the first day of the first month in the third calendar quarter prior to start date> and <the last day of the third month in the third calendar quarter prior to start date>

Q-15. Did you do any work for pay during those three months?
1. YES
2. NO

Q-16 Were you self-employed at that time?
Yes 1 → Q17
No 2
Don't know D
Refused R

(SKIP: If Q15 AND Q16 are both No, Don't Know or Refused, skip to Q22)

Q-17 Was this self-employment your primary source of income?
Yes 1
No 2
Don't know D
Refused R

SKIP: If Q-17 is YES, then go to Q-21.

Q-18. Were you a union member during that time?
1. Yes
2. No
3. Uncertain

Q-19. Did your employer, or any of your employers if you had more than one, provide a health care plan with that job?
1. Yes
2. No
3. Uncertain

Q-20. Did your employer, or any of your employers if you had more than one, pay into a retirement program for you, other than social security?
1. Yes
2. No
3. Uncertain

Q-21. To what extent was your training related to the job you held prior to training?
Was the training...
1. Very related to that job
2. Somewhat related to that job
3. Not related to that job

SKIP TO Q-23: Skip Q22 for those who indicated they did work for pay or were self-employed.

Q-22. *If you were not employed,* were you looking for work?
1. Yes
2. No

Employment Three Calendar Quarters Post

Next, we would like to ask you about any jobs you held in the third calendar quarter after leaving <PROGRAM>. That is, between <the first day of the first month in the third calendar quarter after exit> and <the last day of the third month in the third calendar quarter after exit>

Q-23. Did you do any work for pay during those three months?
1. Yes
2. No

Q-24. Were you self-employed at that time?

Yes	1	→ Q25
No	2	
Don't know	D	
Refused	R	

SKIP: If both Q23 and Q24 are No, Don't know, or Refused, Skip to Q36.

Q-25. Was this your primary source of income?

Yes	1
No	2
Don't know	D
Refused	R

Q-26. In what state did you work?
1. Washington only
2. Washington and Other: specify
3. Other: specify
4. DK/Refused

Q-27. Record other state

For the remainder of this section, for those who worked for more than one employer during this period, answer the questions for the job in which you earned the most money.

Q-28. What was your title at that job?

Q-29. How many total hours did you usually work each week? _____

Q-30. Was that job with a temporary employment agency?
1. Yes
2. No
3. DK/Refused

Q-31. Were you a union member at that job?
1. Yes
2. No
3. Uncertain

Q-32. Did your employer provide a health care plan with that job?
1. Yes
2. No
3. Uncertain

Q-33. Did your employer pay into a retirement program for you, other than social security?
1. Yes
2. No
3. Uncertain

Q-34. Next is a list of job characteristics. For each one I read, please tell me if you were satisfied or dissatisfied with that characteristic as a <<Q-28>>.

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
a. Job responsibilities.....	1	2	3	4
b. Salary.....	1	2	3	4
c. Advancement opportunities	1	2	3	4
d. Job in general	1	2	3	4

Q-35. Next, we would like to know how your training is related to that job
To what extent was your training related to your job as <<Q-28>>?
1. Very related to that job
2. Somewhat related to that job
3. Not related to that job

Q-36. *If you were not employed,* were you looking for work?
1. Yes (Answer question Q-37)
2. No (Answer question Q-38)
3. Don't Know → Skip to Q39
4. Refused → Skip to Q39

(If respondent was looking, ask the following question)

Q-37. People give many different reasons why they are looking for work but unable to find a job. For each of the following, please indicate whether or not it is a reason you were unable to find a job you wanted.

		is	is not
a)	The jobs I could get did not pay enough		
b)	There were few jobs available in my line of work		
c)	There were few jobs available in my geographic area		
d)	I could not work the hours of the jobs that were available		
e)	I did not have the necessary skills for the jobs that were available		
f)	Health problems made it difficult for me to work		
g)	Child care problems made it difficult for me to work		
h)	Transportation problems made it difficult for me to work		
i)	You did not like the jobs that were available?		
j)	Other, specify: _____		

_____

SKIP TO Q-39

(If respondent was not looking ask the following question)

Q-38. What is the main reason you were not looking for work at that time?

a) Leave as open-ended, code based on following categories.
b) I was in school/training program
c) I was retired or doing volunteer work
d) I was waiting for a recall from the previous job
e) I was waiting for assignment from a temporary agency
f) I was caring for kids
g) The jobs I could get did not pay enough
h) There were few jobs available in my line of work
i) There were few jobs available in my geographic area
j) I could not work the hours of the jobs that were available
k) I did not have the necessary skills for the jobs that were available
l) Health problems made it difficult for me to work
m) Transportation problems made it difficult for me to work
n) Employers discriminated against me
o) I was doing something else
p) I didn't want to work

Other Training Needed

Q-39. Are there any skills you would like to further improve either through your employer or through an educational institution or training program?

1. Yes
2. No (Skip to Q-41)
3. Don't know

Q-40. Which job skills would you most like to improve? Leave as an open-ended question and code responses in the following categories:

		Yes	No
A	Computer skills	1	2
B	Skills to operate a particular kind of machinery or equipment	1	2
C	Specific job skills	1	2
D	Writing skills	1	2
E	Math skills	1	2
F	Critical thinking or problem solving	1	2
G	Team work	1	2
H	Work habits	1	2
I	How to work with people who are different from you	1	2
J	Decision making	1	2
K	English speaking skills	1	2
L	Reading skills	1	2
M	Communication skills	1	2
N	Leadership or management skills	1	2

Demographics

We are almost finished now. The next few questions are for classification purposes only. Your answers will help us understand the backgrounds of people who are participating in the training programs. Again, I want to assure you that anything you tell me will be kept strictly confidential.

Q-41. To help us determine the ages of people participating in the training programs, could you tell me what year you were born?

Q-42. At the time that you enrolled in training, what was the highest level of education that you had completed? (PROBE AND CLARIFY)

1. No high school diploma
2. High school diploma
3. GED
4. Some schooling after high school but no degree or certificate
5. Vocational certificate/diploma
6. Two year associates degrees Ask Q-43
7. Bachelors degree
8. Post-graduate degree
9. Other: specify
10. DK/Refused

Q-43. Was the purpose of your Associates Degree . . .

1. To prepare you for a specific job
2. To prepare you to transfer to a four-year institution
3. Or for a general arts education
4. DK/Refused

Q-44. Are you of either Spanish or Hispanic origin?

1. Yes
2. No
3. DK/Refused

Q-45. What one or more races do you consider yourself to be? Are you . . . .

1. White or Caucasian
2. African American or Black
3. American Indian/Alaska Native Asian
4. Native Hawaiian/Pacific Islander
5. DK/Refused

Q-46. Are you currently a Washington resident?

Q-47. During 2000 did anyone in your household receive income or support from . . .

	Yes	No	DK/Ref.
a. Supplemental Security Income (SSI)	1	2	3
b. Temporary Assistance for Needy Families (TANF)	1	2	3
c. Food Stamps	1	2	3

Q-48. Do you have a physical, mental or other health condition that has lasted for 6 months or more and which prevents you from working at a job (not including pregnancy)?
1. Yes
2. No
3. DK/Refused

Q-49. Do you have a physical, mental or other health condition that has lasted for 6 months or more and which limits the kind or amount of work you can do at a job (not including pregnancy)?
1. Yes
2. No
3. DK/Refused

Thank and Close

Technical Appendix

Net Impact Methodology

Methodologically, the best way to determine the net impact of a program is to conduct a random assignment experiment as is done in clinical trials of a pharmaceutical.[1] Statewide experimentation with workforce development programs was not feasible and a non-experimental, comparison group methodology was adopted. Individuals who participated in the workforce development programs were compared to individuals who had similar characteristics, but who didn't participate in the programs.

The comparison groups, except for secondary career and technical education, were selected from registrants with the state's Employment Service.[2] An empirical approach, called statistical matching, was used to find the Employment Service registrant who most closely matched each program participant in terms of a long list of characteristics – demographics (e.g., race, ethnicity, gender, disability status, prior education, age, region of the state), preprogram earnings and employment history[3], UI benefit receipt history, and preprogram receipt of public assistance. Propensity score matching (without replacement) was used to select comparison group members. Other matching techniques, such as nearest neighbor algorithms, were also investigated.

Net impacts were then determined by comparing outcomes for individuals who participated in the education and training programs to their matched counterparts from the Employment Service data. Note that any Employment Service registrants that had ever participated in any of the education or training programs were removed from the comparison group pool. A variety of estimation techniques were used to calculate net impacts including comparison of means, regression-adjusted comparison of means, and difference-in-difference comparison of means. Most of the estimates presented in this report are based on difference-in-difference comparisons of means, controlling for observed characteristics of program participants, and the comparison group members (i.e., regression-adjusted means). Basically, these estimates are derived by comparing preprogram and postprogram changes for program participants with changes observed over time for the comparison group. The estimates for secondary career and technical education, JTPA III, and Worker Retraining are based on a regression-adjusted comparison of (postprogram) means.

Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the Employment Service) in fiscal year 1999-2000 and longer-term impacts for individuals who exited in fiscal year 1997-98. The data permitted the W.E. Upjohn Institute for Employed Research to analyze differential net impacts for various subgroups, such as those receiving training or those completing their programs.

Cost-Benefit Analysis

For the cost-benefit analysis, Upjohn calculated the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, and unemployment insurance benefits. Upjohn also estimated the impact of the net change in earnings on social security, Medicare, federal income, and state sales taxes.

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[1] Even with an experiment, there may be implementation problems or behavioral responses that threaten its validity.

[2] A different source of data was used for the comparison group for secondary career and technical education. The Office of Superintendent of Public Instruction collects data on high school seniors. This Graduate Follow-Up Study was used to identify both students completing vocation-technical education as well as comparable students who had not completed vocational education.

[3] The preprogram period ran from approximately 1990 to when the individuals entered the education or training program, or first registered for services at the Employment Service.

Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Upjohn calculated the benefits and costs for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2001 dollars.

The benefit and cost tables presented in this report are based on impacts estimated for participants leaving programs in 1997-98, because a longer-term follow-up was required for this analysis. In fact, the 8 to 11 quarter follow-up for this cohort is still a relatively short time for forecasting to age 65.

Data

The net impact and cost-benefit evaluation required additional data on program participants and comparison group members. The following sources of data, in addition to those discussed in the body of this report, were used.

- Employment Security Department (ESD) records for Employment Service registrants who serve as potential comparison group members—106,440 records for registrants during 1997-98 and 223,608 records for registrants during 1999-2000.
- Office of Superintendent of Public Instruction data, taken from the Graduate Follow-Up Study, for high school students who had not completed vocational education; these potential comparison group members included 33,424 students leaving high schools during 1997-98 and 32,759 leaving during 1999-2000.
- Welfare, food stamp, and medical eligibility records for program participants and potential comparison group members provided through data matches conducted by the Office of Research and Data Analysis of the Department of Social and Health Services.
- Unemployment insurance wage records for potential comparison group members provided through data matches conducted by ESD.
- Unemployment insurance benefit records for program participants and potential comparison group members provided through data matches conducted by the Unemployment Insurance Research Division of ESD.

Workforce Training Results Executive Summary
Customer Satisfaction Survey

The Workforce Training and Education Coordinating Board is committed to high-quality customer satisfaction and continuous improvement. You can help us meet our commitment by completing this form, detaching it, and mailing it in. Please circle the words that best answer the following questions. In the spaces provided, please elaborate on your response.

1. How useful is this document?	not useful	somewhat useful	very useful
2. How clear is this document?	not clear	somewhat clear	very clear
3. How is the information presented?	not enough detail	right amount detail	too much detail
4. How is the length of the document?	too short	about right	too long

5. Do you want additional copies of this document? Yes ___ Quantity ____ No ___

6. How did you expect to use this document? How have you used this document?

7. How can this document be made more useful in future editions? What additional information would you like to see in subsequent documents?

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Job Title	**Sector** Public ___ Private ___ Nonprofit ___	**Your Zip Code**

Does your organization provide training services to clients? Yes ___ No ___

Would you like to be contacted about future WTECB initiatives in this field? Yes ___ No ___

If we have any questions about what you have written here, may we contact you? Yes ___ No ___

(If you answered "yes" to this question or question #7, please fill out the following.)

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